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Abdumajidov Abdulkhay Abdulkhakovich,
docent, the Department of Pharmacology
and Normal physiology
Tashkent Pediatric Medical Institute, Tashkent
E-mail: cool.lolo@mail.ru

FUNCTIONAL FEATURES OF THE CARDIOVASCULAR SYSTEM

Abstract: The problems of regulation of the cardiovascular system are among the most relevant in modern practical and theoretical medicine; therefore our work reflects its functional features based on literary sources.

Keywords: systems, regulation, heart, organs, indicators, work.

The study of the functional parameters of the body in children at all times was the focus of attention of researchers. The features of the development of both morphological and physiological indicators of the whole organism, as well as its systems and organs, were established.

A growing organism is characterized by high reactivity to external influences, and the degree of its adaptive capabilities depends on age, gender, and individual capabilities. Therefore, it seems necessary chronological study of the functioning and adaptation of the organism.

The most important task facing modern physiology is the study of the laws and characteristics of the development of a growing organism. As noted in the literary sources, at present, various factors exert an increasing influence on the children's organism, among which is an insufficiently high level of socio-economic living conditions, an increase in mental loads with relatively low motor activity, adverse environmental conditions, an increase in psychophysiological influences and etc. All this adversely affects the health of children and adolescents, causing unwanted restructuring of body functions, changing its resistance to various influences. In this regard, it is necessary to study the characteristics of a growing organism at different age stages of its development and in a wide age range.

The authors noted that in childhood and adolescence constantly changes occur, associated with the growth and development of the child. In this case, the limiting link in the development of the body's adaptive reactions is cardiac activity, one of the functions of which is pumping. Numerous studies have been devoted to the study of the pumping function of the heart. In the works of these authors, the age-related features of the mechanisms regulating the pumping function of the heart in various motor conditions were established.

Physiologists noted that the feasibility of studying the pumping function of the heart with functional loads of different physiological orientation follows from the work of scientists because the effectiveness of adaptation of the body of children and adolescents to various influences is determined by the ratio of indicators of the pumping function of the heart. The same adaptive result may be achieved due to the different ratios of these functions.

The peculiarity of the child's body is that its adaptation, which represents one of the criteria of health, takes place against the background of an unfinished morphogenesis in the process of functional development. Each age-sex group has its own specific structural and functional features. Therefore, the study of changes in the activity of the heart of children and adolescents, especially on functional loads, will help identify the adaptive capabilities and functional reserves of the cardiovascular system.

Clinicians, in turn, noted that the clinic is increasingly shifting emphasis from the notion of a leading role in various pathologies of direct myocardial damage to the recognition of the key importance of impaired neuroendocrine regulation systems. At the same time, the main areas of work in the field of regulating the activity of the heart are connected with the deepening of the molecular mechanisms of this regulation, while the understanding of the heart as an object of regulation, the organization of the nervous regulatory systems and the general principles of the nervous regulation of the heart remain the same. The heart is considered as a simple muscular pump, the only purpose of which is to provide a proper CB with a proper (normally constant) average arterial blood pressure. Accordingly, the nervous regulation of the heart is reduced to generalized stimulating or inhibitory effects, as well. the organization of regulatory systems – to the antagonistic interaction of the parasympathetic inhibitory and stimulating sympathetic nerves; in this case, the intracardiac nervous system is considered only a multiplier of parasympathetic inhibitory effects.

However, such ideas are in contradiction with a multitude of facts testifying to the complex organization of both the heart itself and the systems of its nervous regulation. On the one hand, with the advent of new methods of diagnosing and treating heart diseases, used in the physiological experiment, more and more data began to accumulate that the heart is a complex system, for which optimal work requires precise coordination of the activity of individual elements – in

particular, the frequency and the strength of heart contractions, the speed of atrioventricular conduction, the strength and time of contraction of various layers and fragments of the myocardium, the speed of diastolic relaxation, etc.

Further analysis of the literature showed that the main role of the cardiovascular system is to ensure the fulfillment of the transport function of the blood; only when moving the blood can perform its main function as the transport of various substances in the body, and the exchange of substances between the blood and tissues occurs only in the capillaries, their total area is huge – up to 1000 m^2. In the walls of the heart and blood vessels, many biologically active substances are produced, for example, the atriopeptide – natriuretic hormone, heparin, histamine, serotonin, blood coagulation factors, endothelium – vasoconstrictor, antibodies. The division into large and small circles of blood circulation is conditional: they communicate with each other, one is a continuation of the other, i.e. two circles are connected in series, it is a closed system.

The properties of the heart muscle are determined by the structural characteristics of the cardiomyocytes and their functional relationships. In the heart there are two types of muscle fibers – the working myocardial cells, which constitute the main mass of the heart and ensure its mechanical activity, as well as atypical muscle fibers, which form the conductive system of the heart and ensure its automaticity. In these cells, arousal is generated, which then spreads throughout the heart. The muscle fibers of the working myocardium of the atria and ventricles are separated by the connective tissue atrial-ventricular septum, the connection between them is carried out only in one area, through the cardiac conduction system.

As well as physiologists noted that the main source of energy for the heart is the process of aerobic oxidation. Anaerobic oxidation (anaerobic glycolysis) for the heart, unlike skeletal muscle, plays a minor role. Potential energy carriers are mainly non-carbohydrate substrates. These are free fatty acids and lactic acid (about 60%), pyruvic acid, ketone bodies and amino acids (less than 10%). Only about 30% of the energy consumed by the heart is covered by glucose; during exercise, the energy share of fatty and lactic acids increases while reducing the energy share of glucose. Thus, the heart utilizes non-oxidized products that accumulate as a result of intensive muscular work, and thereby prevents the acidification of the internal environment of the body.

The high dependence of the activity of the heart muscle on aerobic oxidation makes the heart highly dependent on the supply of oxygen to cardiomyocytes. A heart weighing 300 g consumes about 30 ml of O_2 per minute, which is 10–12% of the total amount of oxygen consumed by the body at rest (the heart mass is 0.5% of the body weight).

For 1 kg of mass, the whole body consumes about 4 ml of O_2 per 1 minute, and the heart, about 100 ml, i.e. 25 times more. Skeletal muscle can work for some time without oxygen at all (in debt) due to glycolysis. The efficiency of the heart on average is about 30%, i.e. slightly more than skeletal muscle, 20–25%.

With the deterioration of the coronary blood flow and insufficient oxygen supply to the heart muscle, pathological processes can develop in it, up to and including a heart attack. However, this happens relatively rarely due to myoglobin present in the heart muscle in an amount of about 4 mg / g of tissue. It has a great affinity for 02, stores it during diastole and heart dormancy, and releases it during systole, when the blood flow in the coronary arteries of the ventricles stops: 1 g of myoglobin binds 1.34 ml of 02, which is 0.005 ml per 1 g of tissue. This amount of oxygen is enough for the heart to work for 3–4 s (normally, systole of the ventricles lasts 0.3 s). Even in the case of a short-term spasm of the coronary vessels, for example, with strong negative emotions, the oxygen associated with myoglobin alleviates the difficult heart situation.

Thus, summing up the literature review, one can say about the value of studying the functional features of the cardiovascular system.

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Azamatov Azizbek Azamat o'gli,
Junior scientist, Institute of Chemistry of Plant Substances,
Academy of Sciences of Republic of Uzbekistan, Tashkent
E-mail: azizbek.azamatov@bk.ru

NOOTROPIC ACTIVITY OF NEW CYTISINE N-BENZOYL DERIVATIVES

Abstract: The new cytisine N-benzoyl derivatives effects on exploratory behavior in the open field, antihypoxic activity on a model of normobaric hypoxia with hypercapnia, anti-narcotic at ethaminal sodium and alcohol intoxication and anticonvulsant activity after pentylenetetrazole injection has been studied in mice. It was established that the investigated substances promote locomotor activity, orienting-exploratory behavior, resistance of brain to hypoxia, and manifested antinarcotic and have a weak anticonvulsant action.

Keywords: Cytisine derivatives, nootropic activity, antihypoxic properties, locomotor activity, convulsions, anesthesia, orienting-exploratory activity.

Introduction and research methods:

More than 2000 derivatives derived from cytisine over the world until now. Institute of the Chemistry of Plant Substances of the Academy of Sciences of the Republic of Uzbekistan has been carrying out targeted synthesis and pharmaco-toxicological studies among N-benzoyl cytisine derivatives [1].

It was previously found that cytisine derivatives, including N-benzoyl cytisine derivatives, show psychotropic activity [2–8].

In this regard, the purpose of this work was to study the psychotropic activity of new cytisine N-benzoyl derivatives N- (3-benzoyloxy-4-methoxybenzoyl) cytisine hydrochloride and N- (3, 4-dimethoxybenzoyl) cytisine hydrochloride.

The experiments were carried out according to a program involving the use of the most informative and adequate methods for evaluating nootropic substances. The investigated substances were applied subcutaneously to white mice males weighing 18–22 grams. In 30 minutes the effect of the studied compounds on the orienting – exploratory behavior in the open field of 40 × 40 cm pad drawn in 10 × 10 cm squares with 16 rounded holes with diameter of 4 cm was observed for 2 minutes. We registered the number of horizontal displacements by the number of crossed squares, the number of stepping on the hind legs and the number of surveyed holes. Average values of the parameters for the group, standard deviations and confidence intervals were calculated. The investigated substances were administered at doses of 0.1–0.5–1–5 mg/kg. Each dose was tested on 10 mice. A control group of mice under the same experimental conditions were injected with sterile isotonic NaCl solution.

Antihypoxic activity was studied on white male mice of 21–22 g using a model of normobaric hypoxia with hypercapnia. Animals were placed by pairs in hermetically sealed cans of 500 cm^3. The survival time of mice under hypoxia was recorded, and the percentage of survival time increasing was calculated relative to the control group. Each dose was tested on 10 animals.

The analeptic effect of investigated substances was evaluated by their antagonism to sodium ethaminal and ethanol. Sodium ethaminal was administered at a dose of 50 mg/kg, alcohol 4.8 g/kg intraperitoneally in 30 minutes after the subcutaneous injection of the studied substances. The duration of anesthesia (lateral position) was recorded.

Anticonvulsant activity was investigated on white mice. Convulsions were caused by subcutaneous administration of pentylenetetrazole at a dose of 80 mg/kg. The studied substances were injected subcutaneously in 30 minutes before pentylenetetrazole. Duration of convulsions and time of animal death were recorded.

Acute toxicity assessed on white mice weighing 20–22 grams after subcutaneous injection of the investigated compounds.

Pyracetam – Darnitsa at a dose of 400 mg/kg (Ukraine) was used as a reference drug.

All experimental data on nootropic activity and acute toxicity were calculated using Student's and Litchfield-Wilcoxon methods.

Results and discussion:

Experimental data shown that the studied N-benzoyl derivatives of cytisine showed a high nootropic activity (Table 1).

Table 1. – Effects of cytisine N-benzoyl derivatives on locomotor activity of mice (n = 10)

No.	Investigated substance	Doses. mg/kg	Horizontal movies	Vertical stands	Holes survey
1	*2*	*3*	*4*	*5*	*6*
1.	Control group (NaCl solution)	0.2	10.8 ± 1.2	5.3 ± 1.0	12.5 ± 1.2
2.	Pyracetam	400	15.8 ± 1.5	8.6 ± 1.2	15.2 ± 1.7

1	*2*	*3*	*4*	*5*	*6*
3.	N-(3-benzoyloxy-4-methoxy-benzoyl) cytisine hidrochloride	0.1	18.4 ± 1.6	12.6 ± 1.4	10.2 ± 1.3
		0.5	20.2 ± 1.0	13.8 ± 1.2	12.5 ± 1.1
		1.0	22.6 ± 1.1	16.2 ± 1.3	21.2 ± 1.5
		5.0	15.4 ± 1.2	4.6 ± 0.5	22 ± 1.6
4.	N-(3.4-dimethoxybenzoyl) cytisine hydrochloride	0.1	12 ± 1.5	10.4 ± 0.4	8.4 ± 1.4
		0.5	12.8 ± 1.2	12.6 ± 1.2	11.6 ± 1.0
		1.0	15.2 ± 1.7	15 ± 1.1	14.5 ± 1.1
		5.0	11.5 ± 1.5	9.8 ± 1.0	20.8 ± 1.2

As shown in the (Table 1), the test drugs, depending on the administered dose, compared with the control group of animals, increased locomotor and exploring activity of mice for 1.4–1.8 times and exceeded Pyracetam.

Evaluation of antihypoxic activity (Table 2) showed that N-(3,4-methylenedioxybenzoyl) cytisine hydrochloride increases the reserve time compared to the control group of animals depending on the dose by 25.8–34.8% and exceeded Pyracetam.

The tested substances manifested a noticeable analeptic effect (Tables 3, 4) against sodium ethaminal and ethanhol by shortening the anesthesia duration for 16.2–54.8% and 17.8–51%, accordingly.

Table 2. – Mice survival time in normobaric hypoxia with hypercapnia (n = 10)

No.	**Investigated substance**	**Doses,mg/kg, s.c.**	**Survival time, min**	**Reserve time increasing,%**
1.	Control (NaCl solution)	0.2	22,4 ± 0,91	–
2.	Pyracetam	400	28,2 ± 0,98	25,8**
3.	N-(3-benzoyloxy-4-methoxy-benzoyl) cytisine hidrochloride	0,1	24,8 ± 1,2	10,7**
		0.5	26,5 ± 0,85	18,3**
		1.0	26.2 ± 0.80	13.8**
		5.0	25.5 ± 0.75	5.6 **
4.	N-(3.4-dimethoxybenzoyl) cytisine hydrochloride	0.1	30.2 ± 0.68	34.8*
		0.5	28.2 ± 0.82	25.8 **
		1.0	30.1 ± 0.9	34.3 *
		5.0	29 ± 0.96	29.4 *

*Note: * P < 0.01, ** P < 0.05*

Table 3. – Investigated substances antagonism to soporific effect of sodium ethaminal (n = 10)

No.	**Investigated substance**	**Doses. mg/kg, i.p.**	**Sleep duration**		**Effectiveness,%**
			min	**%**	
1.	Control (sodium ethaminal)	50	96.2 ± 8.8	100%	–%
2.	Pyracetam	400	57.4 ± 6.0	59.6%	–40.4%*
3.	N-(3-benzoyloxy-4-methoxy-benzoyl) cytisine hidrochloride	0.1	58 ± 6.2	60.2%	–39.8%**
		0.5	60.2 ± 7.8	63.2%	–36.8%**
		1.0	62.8 ± 8.2	65.2%	–34.8%**
		5.0	43.5 ± 5.8	45.2%	–54.8%*
4.	N-(3.4-dimethoxybenzoyl) cytisine hydrochloride	0.1	49.8 ± 7.0	51.7%	–48.3%*
		0.5	56.4 ± 6.6	58.6%	–41.4%*
		1.0	78.2 ± 5.8	81.2%	–18.8%
		5.0	80.7 ± 7.5	83.8%	–16.2%

*Note: * P < 0.01, ** P < 0.05*

Table 4.– Effect of investigated substances on acute alcohol intoxication (n = 10)

No.	Investigated substance	Doses, mg/kg, i.p.	Sleep duration		Effectiveness,%
			min	%	
1.	Control (ethanol 4.8 g/kg)	4.8	94.8 ± 8.2	100%	–%
2.	Pyracetam	400	69.2 ± 7.0	72.9%	–27.1%**
3.	N-(3-benzoyloxy-4-methoxybenzoyl) cytisine hidrochloride	0.1	78 ± 7.2	82.2%	–17.8%
		0.5	72.6 ± 6.4	76.5%	–23.5%**
		1.0	69.8 ± 7.5	73.6%	–26.4%**
		5.0	46.5 ± 5.5	49%	–51%*
4.	N-(3.4-dimethoxybenzoyl) cytisine hydrochloride	0.1	67.2 ± 7.8	70.8%	–29.2%**
		0.5	64.8 ± 6.3	68.3%	–31.7%**
		1.0	66.5 ± 6.8	70.1%	–29.9%**
		5.0	52.4 ± 6.5	55.2%	–44.8%*

*Note: * P < 0.01, ** P < 0.05*

New cytisine N-benzoyl derivatives showed weak anticonvulsant activity (Table 5).

Table 5.– Anticonvulsant activity of investigated substances (n = 10)

No.	Investigated substance	Doses, mg/kg, s.c.	Convulsions duration, min	Survival	
				Dead	Alive
1.	Control (pentylenetetrazole)	80	9.5	10	0
2.	Pyracetam	400	23.6	9	1
3.	N-(3-benzoyloxy-4-methoxy-benzoyl) cytisine hidrochloride	0.1	16.2	10	0
		0.5	12.5	9	1
		1.0	17.6	9	1
		5.0	17.4	10	0
4.	N-(3.4-dimethoxybenzoyl) cytisine hydrochloride	0.1	18.4	10	0
		0.5	9.8	8	2
		1.0	21.5	9	1
		5.0	11.4	10	0

The acute toxicity of N- (3-benzoyloxy-4-methoxybenzoyl) cytisine hydrochloride and N- (3,4-dimethoxybenzoyl) cytisine in subcutaneous administration to white mice was 125(110.6 ÷ 141.1)mg/kg and 131 (115.9 ÷ 148.0)mg/kg, respectively.

Conclusions:

1. New N – benzoyl cytisine derivatives displayed high nootropic activity.

2. Nootropic activity of N- (3-benzoyloxy-4-methoxybenzoyl) cytisine hydrochloride and N- (3,4-dimethoxybenzoyl) cytisine hydrochloride exceeds those of nootropic drug Pyracetam.

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Azizova Guzzal Djambulovna,
Republic specialized scientific-practice medical center of obstetrics and gynecology, Tashkent, Uzbekistan, scientific explorer
E-mail: mexriban85@mail.ru

Azizova Dinara Shukurullaevna,
Republic specialized scientific-practice medical center of obstetrics and gynecology, Tashkent, Uzbekistan, scientific explorer
E-mail: mexriban85@mail.ru

POSTMENOPAUSAL OSTEOPOROSIS AND THE ROLE OF POLYMORPHISM OF THE VITAMIN D RECEPTOR GENE IN WOMEN OF THE UZBEK POPULATION

Abstract: In purpose of the estimate postmenopausal osteoporosis in women of tht Uzbek population, we saw 133 women in the post-menopausal period. The mean age of the patients was 57.5 ± 4.7 years. The study included women of the Uzbek population in postmenopausal women, who turned to the LLC RSSPMC of obstetrics and gynecology MH of the RUzb.

Keywords: post-menopausal period, osteoporosis, in women of tht Uzbek population.

Introduction

From the standpoint of modern medicine, it is extremely important to identify certain interrelationships and common pathogenetic mechanisms between different diseases with a view to developing a comprehensive and individual approach to the treatment and prevention of diseases.

Systemic osteoporosis is usually attributed to the inevitable age-related changes in bone tissue. The most common form of bone disease is postmenopausal osteoporosis [1; 2]. Decrease in density, and accordingly, the strength of bone tissue, inevitably arises in the process of aging of the organism, having a beginning already at the age of 40–45 years [3; 2; 4]. Each subsequent year of life the woman, on average, loses 0.86–1.21% of bone mass, and the man to 0.04–0.90% [5]. Against the background of the general aging of the population, the number of patients with osteoporosis increases every year. By now, the duration of human life is high enough, in this connection, the proportion of people of elderly and senile age increases annually. According to modern data, the age of over 65 years in both sexes is identified as a separate predictor of bone fractures [6]. According to WHO data, by 2020 the number of people over 60 years will exceed the number of children under the age of 5, which will undoubtedly lead to an increase in the number of patients with osteoporosis. However, the fact that menopause is an indispensable period in the life of every woman, and a clinically significant decrease in bone density does not appear in all women, suggests that in addition to reducing the function of the gonads, there are additional factors that initiate accelerated bone loss [7; 8].

Vitamin D (25 (OH) D) is now ranked as a hormone (D-hormone). More precisely, the active metabolite of vitamin D-calcitriol (1.25-dihydroxyvitamin D3) is included in the hormone-active substance [9]. The overall effect of vitamin D on the body is aimed at stimulating calcium absorption in the intestine, as well as participation in the regulation of bone remodeling and mineralization of bone tissue [5; 10]. There is no other similar stimulator of calcium absorption in the body [11]. Besides, vitamin D affects the reabsorption of calcium and phosphorus in the renal tubules. In addition, vitamin D is able to directly change the permeability of cell membranes for calcium directly, increasing the influx of calcium into the cell [12]. This is shown on enterocytes, hepatocytes, and skeletal muscle cells [9]. Vitamin D is heterogeneous in the human body and is represented by the two most common and active forms – D2 (ergocalciferol) and D3 (cholecalciferol). The main source of vitamin D2 for people – milk, eggs, fish, cereals. Vitamin D3 – a more active form than ergocalciferol, is mainly formed endogenously, in the skin under the influence of ultraviolet, but can also come with food. The total level of vitamin D depends on the insolation, the region of residence, the duration of daylight, age, nutrition [13]. The daily requirement of a healthy adult in this vitamin is 400–800 IU [7; 13]. However, at different ages and under certain conditions (pregnancy, lactation, impaired liver function, kidney function, hypoparathyroidism), the need for vitamin D increases [8; 14; 15].

With the development of molecular biology, the study of genetic factors involved in aging processes, the knowledge

gained allowed us to consider aging as a heterogeneous product of genetic factors that are manifested under the influence of various environmental causes, behavioral, psychosocial and economic conditions, many of which are significantly influenced by both available and newly emerging treatment strategies. Among the factors that affect the risk of osteopenia and osteoporosis, as a consequence of changes in bone mineral density (BMD), heredity plays an important role. In the course of research, the relationship between the vitamin D receptor gene (VDR) and the above diseases was revealed. Vitamin D, when linked to its receptor, plays an important role in calcium and phosphoric homeostasis, regulating the growth and differentiation of bone cells, intestinal calcium absorption and the secretion of parathyroid hormones. Polymorphisms of the VDR gene are associated with the circulating level of osteocalcin, weight and mineral density of bone, osteoporotic fractures of bones [16; 17]. Polymorphisms in the gene of the vitamin D receptor (VDR) cause the genetic variability of the BMD.

Aim: To determine the possible relationship between the polymorphism of the vitamin D receptor gene and osteoporosis in postmenopausal women in the Uzbek population.

Materials and methods: The study included women of the Uzbek population in postmenopausal women, who turned to the LLC RSSPMC of obstetrics and gynecology MH of the RUzb. The mean age of the patients was 57.5 ± 4.7 years. Age of onset of menopause is 49.35 ± 3.8 years. The duration of menopause (persistent absence of menstruation for a year or more) was 6.4 ± 7.8 years.

The main complaints during treatment were: "hot flashes" to the head, severe sweating, sleep disturbances (insomnia, intermittent sleep, difficulty falling asleep), headaches, dizziness, low back pain, weakness, increased or decreased blood pressure, cramps in the calf muscles and etc.The severity of climacteric syndrome (CS) was determined with the help of a modified menopausal index (MMI) according to E. V. Uvarova. MMI ranged from 22 to 38 points and averaged 29.3 ± ± 4.8 points. All examined women had a gynecological examination, ultrasound of the pelvic organs.

Taking into account the estrogen deficiency as the main predictor of the above postmenopausal disorders and the presence of menopausal (climacteric) syndrome, all participants were recommended hormone replacement therapy (HRT) for 3–6 months with the aim of pathogenetic therapy, with 1 mg of estradiol and 5 mg of dydrogesterone.

Measurement of bone mineral density was performed using dual-energy X-ray absorptiometry (DXA) of the vertebrae of the lumbar region, the neck of the femur and the forearm with a Hologic apparatus (USA).

Combined preparation with a calcium carbonate content of 500 mg and vitamin D400 mg 1tab 2 times a day and preparations of cholecalciferol were recommended for patients without osteoporotic changes with a preventive goal, the dose of which was selected individually according to its indexes in the blood. Additionally alendronic acid in a dose of 75 mg 1 time per 7 days on an empty stomach 2 hours before meals were recommended for women with osteoporotic changes.

133 blood samples of women of the Uzbek population in the postmenopausal period were studied for polymorphism of the VDR gene. Studies were conducted in the genomics laboratory at the Institute of Bioorganic Chemistry of the Academy of Sciences of Rep of Uzbekistan. PCR analysis was performed using a set of reagents for PCR amplification of DNA GenePak ™ PCRCore DNA (manufactured by Isogen Laboratory).

Results and discussion: Against the background of the use of hormone replacement therapy with 1 mg of estradiol and 5 mg of dydrogesterone, climacteric disorders (hot flushes to the head, severe sweating, sleep disturbance) decreased by more than 60% in all studied women. The modified menopausal index against the background of treatment ranged from 7 to 12 points and averaged 11 ± 0.8 points.

Genetic analysis of 133 DNA samples of patients revealed the following distribution of polymorphisms in the VDR gene: 64(48.12%) women were homozygous carriers of the F/F genotype, the f/f genotype was detected in 23 samples (17.29%), heterozygous F/f there were 46 patients (34.58%) (see Table № 1). The FF genotype testifies a good uptake of vitamin D receptors followed by a full-fledged effect on calcium absorption in the intestine, respectively, Ff and ff – on unsatisfactory capture.

Table 1.

Vitamin D receptor gene	FF-genotype	Ff-genotype	ff-genotype
n-133	64(48.12%)	46 (34.58%),	23 (17.29%)

In order to study the state of BMD, depending on the polymorphism of the VDR gene, X-ray densitometry was performed in 89 participants of the study (see Table № 2).

In 25 women (59.5%) with the FF genotype, osteoporotic changes of the lumbar spine were detected on x-ray densitometry, 19 (45.17%) females had osteoporotic changes in femoral neck, 10 (23.7%) had osteoporotic changes in the lower third of the forearm. As for the Ff genotype, 21 (63.6%) had osteoporotic changes in the lumbar spine, 14 (42.3%) femoral neck females, and 10 (30.3%) had osteoporotic changes in the

lower third of the forearm. With the ff genotype, 6(42.87%) women exhibited osteoporotic changes in the lumbar spine, 5(35.7%) females had osteoporotic changes in femoral neck, and 3 (21.42%) in the lower third of the forearm.

Table 2. The state of bone tissue in women with polymorphism of the VDR gene

Genotype	BMD	Lumbar spine	Neck thighs	Lower third of forearm
FF(n–42)	Osteoporosis	10–(23.8%)	7–(16.6%)	3–(7.14%)
	Osteopenia	15–(35.71%)	12(28.57%)	7–(16.6%)
Ff(n–33)	Osteoporosis	11–(33.3%)	3–(9%)	5–(15.15%)
	Osteopenia	10–(30.3%)	11–(33.3%)	5–(15.15%)
ff(n–14)	Osteoporosis	2–(14.3%)	0–(0%)	1–(7.14%)
	Osteopenia	4(28.57%)	5(35.7%)	2–(14.28%)

Thus, in women with the genotype FF, osteoporotic changes in the lumbar spine (28.1%) were slightly less frequent than with the Ff and ff alleles (30.3%). Osteoporotic disorders in the femoral neck were found in the same number of owners of the FF genotype (21.3%) and Ff and ff(21.3%). As for the lower third of the forearm, osteoporotic changes were slightly more frequent in patients with genotypes Ff and ff(14.6%) than with the FF genotype (11.2%).

In our studies, the presence of osteoporosis was not always associated with the possession of the genotypes Ff or ff in the polymorphism of the VDR gene. Osteoporotic changes were found even in the owners of the FF genotype, which indicates the polyetiologic nature of this pathology.

Interesting data were obtained when determining the concentration of vitamin D in the blood of 56 postmenopausal women of the Uzbek population. Despite the prevalence of sunny days and increased insolation in our region, only one woman found a normal level of this indicator; in all others the concentration of vitamin D was reduced to different degrees (see Table № 3). The degree of saturation with this hormone was determined in terms of: norm: 30–100 ng/ml, insufficiency: 21–29 ng/ml, deficiency: 10–20 ng/ml, expressed deficiency: < 10 ng/ml.

Table 3. Indicators of vitamin D in postmenopausal women of the Uzbek population

The degree of saturation with vitamin D	Absolute amount (%)	Median (ng/ml)	Min. value (ng/ml)	Maksim. value (ng/ml)	M ± m (ng/ml)
Normal	1(1.8%)	30.51	–	–	–
Insufficient	8(14.3%)	21.76	20.13	26.75	22.53 ± 0.95
Deficit	21(37.5%)	14.32	10.18	19.53	14.36 ± 0.74
Expressed deficiency	26(46.4%)	5.445	3	9.8	5.55 ± 0.43

The results of our studies showed that, despite the increased and prolonged insolation, women in our region need additional intake of exogenous vitamin D, as only 1.8% of participants in our survey had a normal level of vitamin D in the blood, the insufficiency of this necessary vitamin was detected in 14.3%, a deficit – in 37.5% (more than a third of women) and, finally, a pronounced deficit – in 46.4% 9 (almost half of patients).

Thus, in order to prevent the development of osteoporosis, it is extremely necessary to identify the degree of saturation with vitamin D and recommend the intake of an adequate dose of exogenous vitamin D.

The level of calcium in the blood was reduced in 10 (18.9%) patients. The median was 2.13 mmol/l, M + m = = 2.13 + 0.02 mmol/l. A lowered level of calcium in the blood may be due to a deficiency of this macroelement and vitamin D. A lowered level of calcium in the blood can also be caused by impaired absorption of substances, kidney and liver diseases, endocrine and other disorders. The level of calcium in the blood can not be the only clear criterion of osteoporosis, since it does not indicate the calcium content in bone tissue. If the body does not receive enough of this macro-element or it is lost because of the decreased level of the female hormone estrogen, calcium begins to wash out of the bones to compensate for the deficiency in the blood. That is, bone tissue suffers so that the rest of the brain, heart, nerves, and muscles can work normally.

Table 4. The level of markers of bone metabolism after 3 months of antiresorptive therapy (M + m)

	b-CrossLaps n = 12 ng/ml	**PINP n = 12 ng/ml**	**Osteocalcin n = 10 ng/ml**	**Vit.D total n = 11 ng/ml**	**Calcium n = 12 mol/l**
Outcome	0.46 ± 0.03	56.8 ±2.95	27.04 ± 1.4	11.73 ± 0.95	2.13 ± 0.02
After 3 months of therapy	0.21 ± 0.06*	36.9 ± 1.78*	21.4 ± 1.3	30.47 ± 0.96*	2.31 ± 0.06
	p < 0.01	p < 0.5	P < 0.5	p < 0.01	

** – p between the initial value and after therapy*

Thus, our studies showed that in postmenopausal women there are significant changes in bone metabolism, characterized by the prevalence of the destruction process over the process of bone tissue synthesis.

Postmenopausal women need to examine biochemical markers of bone tissue in order to monitor the effectiveness of therapy and to adjust dosage of drugs.

After three months of anti-resorptive treatment, the levels of bone metabolism markers changed somewhat (see Table 4).

Thus, in postmenopausal women there are significant changes in bone metabolism, characterized by the prevalence of the destruction process over the process of bone tissue synthesis. Namely, the value of b-CrossLaps (bone resorption marker) was 5.8 times higher than normal (0.46 + 0.03 ng ml), while the markers of bone formation remained within normal limits. Disappointing indicators of vitamin D in the blood of our women living in the region of prolonged and active insolation: only 1.8% of participants in our survey had a normal level of vitamin D in the blood, a deficiency of this necessary vitamin was detected in 14.3%, deficiency in 37, 5% (more than a third of women) and, finally, a pronounced deficit – in 46.4% 9 (almost half of patients). Insufficiency of vitamin D promotes reducing absorption of calcium into the blood in the intestine and the development of osteoporotic changes. In order to prevent the development of osteoporosis, it is extremely necessary to identify the degree of saturation with vitamin D and recommend an adequate dose of exogenous vitamin D.

Thus, a significant number of women of the Uzbek population, despite the increased and prolonged insolation, are susceptible to osteoporotic lesions of bone tissue. Therefore, residents of our region need to be examined for osteoporosis and further monitoring, as well as in the prevention and treatment of osteoporotic disorders.

So, all women in postmenopause are advisable to prevent osteoporosis with the use of calcium preparations in a daily dose of 1000 mg and vitamin D with an individual selection of its dose. In case of detection of osteoporotic changes, antiresorptive therapy is recommended.

Thus, patients with risk factors for postmenopausal osteoporosis desirability to determine the polymorphism of the vitamin D receptor gene for predicting osteoporotic changes and the beginning of their timely prevention and treatment. Bone metabolism markers (PTH, P1NP, Betta-crossLaps, osteocalcin, CT, CA), in particular vitamin D in postmenopausal women with osteoporotic changes, before treatment, as well as after 3 months, 6 months and a year later for dose adjustment and determining the duration of drug intake.

Conclusions:

1. In the absence of contraindications and the presence of symptoms of climacteric syndrome, the most valid method of treatment of postmenopausal osteoporosis remains monophasic combined hormone replacement therapy. An effective agent for the treatment of the syndrome is a drug containing 1 mg of estradiol and 5 mg of dydrogesterone.

2. Determination of the bone tissue state by the method of dual-energy x-ray osteodensitometry should be carried out directly in the areas of the greatest risk of fractures: in the distal forearm, lumbar spine and proximal femur, as the loss of BMD in postmenopausal osteoporosis occurs unevenly.

3. For the purpose of revealing postmenopausal osteoporosis, as well as for evaluating the effectiveness of therapy, it is necessary to conduct an annual study of the bone mineral density of the distal forearm, lumbar spine and proximal femur by dual-energy X-ray osteodensitometry.

4. In order to predict the development of osteoporotic disorders, it is advisable to carry out genetic studies on polymorphisms of the vitamin D-VDR receptor gene. Our studies showed that 51.87% of women in the Uzbek population have homozygous (ff) and heterozygous (Ff) polymorphism of the VDR gene and this group has a high risk of osteoporosis.

5. Despite the increased and prolonged insolation of women in our region, they need an additional intake of exogenous vitamin D, the dose of which must be selected individually after determining the degree of saturation.

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Azizova Rano,
Umirkulov Otabek,
Tashkent Medical Academy
E-mail: mbshakur@mail.ru

FEATURES OF CLINICAL COURSE OF EPILEPSY ASSOCIATED WITH ANXIETY AND DEPRESSIVE DISORDERS

Abstract: As a result of a study of 129 patients with epilepsy, a high frequency (73.6%) of associated psychopathological disorders of anxiety and depressive nature was detected, with their prevalence in women (66.1%). Distinctive clinical features of epilepsy associated with anxiety and depressive disorders are pharmacoresistance, the prevalence of simple partial ideatorial and emotional-affective seizures and the presence of affective disorders of the anxiety-depressive circle in history before the onset of the disease (79.8%).

Keywords: epilepsy, depression, anxiety disorders, diagnosis.

Epilepsy and various epileptic syndromes are among the most common diseases in the clinical practice of neurologists, psychiatrists and family doctors. The overall incidence of epilepsy in developed countries is about 50 per 100 thousand of population per year, the prevalence is 4–10 per thousand of population (0.5–1.0%). There is a high incidence of mental disorders associated with epilepsy (up to 66%) [2; 3], therefore the study of the clinical and etiopathogenetic features of these disorders is of considerable interest [4].

It is noted that among the mental disorders associated with epilepsy, depressive and anxiety disorders are most common, mostly at the non-psychotic level [1; 5], and among patients with temporal epilepsy they rank first among all mental disorders and are present in more than half of the cases [3; 4; 6].

Clinically, such disorders are a combination of polymorphic, atypical and mixed forms, which requires careful diagnosis and selection of combined psychopharmacotherapy. In some cases, affective disturbances of anxiety and depressive nature associated with epilepsy are leading in the clinical picture of epilepsy, masking it, which can lead to diagnostic errors [2; 6].

Objective: to assess the frequency of anxiety and depressive disorders in patients with epilepsy in accordance with the clinical characteristics of the disease.

Materials and research methods: in the period from 2016 to 2018, the TMA clinic received 129 patients with epilepsy, of whom 49(38%) were men and 80(62%) women. According to general demographic characteristics, the distribution was as follows: the average age of the subjects in the total sample was (30 ± 9.9) years, 25 people (19.4%) had secondary education, 55 people (42.6%) had specialized secondary education, 49 higher education people (38%), not working were 98 people (76%), workers – 31(24%). 51(39.5%) had a family, were officially or not officially married, 78(60.5%) had no families. 57(44.2%) people did not have a disability group, 38(29.5%) people had a disability group III, 34(26.4%) had a II group.

Psychometric scales were used to objectify the clinical assessment of the condition: a) Hamilton Anxiety Rating Scale, HAMA, 1960); b) The Montgomery-Asberg Depression Symptom Rating Scale, Montgomery-Asberg Depression Rating Scale, MADRS, 1979) self-inquiry scale Beck Depression Rating Scale (Beck Depression Inventory, BDI, 1961). Scales all patients filled in by listening to the instructions for filling.

All patients were examined according to approved diagnostic standards for epilepsy.

All patients received antiepileptic therapy at the time of the survey. 6 people (4.7%) received a combination of antiepileptic drugs with tranquilizers, 18(14%) – with neuroleptics, 16(12.4%) – with antidepressants. In terms of the duration of antiepileptic therapy, the overall distribution was as follows: 11 people (8.5%) took antiepileptic therapy for less than a year, 26(20.2%) – from 1 to 5 years, 19(14.7%) – from 5 to 10 years, 73(65.6%) – more than 10 years. 77 people (59.7%) had taken barbiturates in the past. Most of the surveyed received treatment with a combination of drugs from the group of carbamazepines and the group of valproates – 40(31%) people, 23(17.8%) – received carbamazepine monotherapy, 16 – (12.4%) received combined treatment with three drugs, which included carbamazepine, topiramate and valproate. 9 people (7.0%) were on monotherapy with valproate and the same received a combination of topiramate and carbamazepine. 1 person (0.8%) at the time of the survey took lamotrigine as monotherapy, 1(0.8%) – levetiracetam, 3(2.3%) – barbiturates were taken as monotherapy. All patients underwent additional neurometabolic therapy.

Results of the study: among all the examined patients, the symptoms of anxiety disorder were identified in 95 people (73.6%), among whom 19 people (14.7%) had mild anxiety disorders, 49(38%) had moderate severity, in 27(20.9%) – heavy.

Among the patients of this group of men there were 39(41.1%), women – (58.9%). The average age of patients in

this group was (31.0 ± 11.2) years, the average duration of the disease was (15.8 ± 12.9) years.

When analyzing the clinical picture of patients with a predominance of associated anxiety disorders, three subgroups were identified: with predominantly anxiety-phobic symptoms, generalized anxiety symptoms, and anxiety symptoms against the background of cerebroscence.

In the first subgroup there were 34 (37.8%) people, in the second – 26 (27.3%), in the third – 35 (36.8%).

Among patients with a predominance of anxiety-phobic symptoms in the clinical picture (34 patients, 37.8%), the majority were women.

In most patients, the disease duration was up to 10 years (27 people, 79.4%). Mild and moderate anxiety disorders associated with psycho-traumatic events were noted in 27 of them (79.4%) in the history before the onset of epilepsy. They did not have a connection between the course of epilepsy, the frequency of seizures and their nature and intensity of anxiety-phobic disorders.

Among patients with a predominance of symptoms of generalized anxiety disorder in the clinical picture – 26 (27.3%) were mostly male patients (19 people, 73%). In most patients, the disease duration was more than 10 years (21 people, 80.7%). In the clinical picture of such patients, in addition to epileptic seizures, there were signs of generalized anxiety disorder.

Symptoms of depression of varying severity occurred in more than half of all patients examined – 75 (58.1%) people. It was also noted that self-assessment of the symptoms of depression by patients was slightly lower than the clinical physician's assessment of the presence of symptoms of depression.

When analyzing the clinical picture of depressive disorders, it was found that among patients of this group, 21(28%) people had a predominance of depressive-hypochondriac symptom complex, 43(57.4%) – astheno-depressive, in 11(14.6%) – in the structure of depression was noted the predominance of dysphoric affect.

In cases where depressive-hypochondrial symptoms in the interictal period prevailed in the clinical picture, a combination of hypothymic affect with hypochondriacal complaints, expressions of concern for their health, with pronounced signs of anxious alertness for any changes in well-being was noted. Patients had various phobias, such as the fear of a seizure in a public place, as well as various kinds of phobias that are not directly related to seizures, such as an obsessive fear of death, the fear of making the wrong decision, etc.

Findings:

1. The study revealed a high frequency (73.6%) of associated psychopathological disturbances of anxiety and depressive nature in patients with epilepsy with their prevalence in women (66.1%, p 0.05).

2. Distinctive clinical features of epilepsy associated with anxiety and depressive disorders are pharmacoresistance, the prevalence of simple partial ideatorial and emotional-affective seizures and the presence of affective disorders of the anxiety-depressive circle in history before the onset of the disease (79.8%).

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Akramova Kh.A.,
Amanova N.A.,
Ubaidullaeva O. Kh.,
Tashkent Pediatric Medical Institute
E-mail: mbshakur@mail.ru

FEATURES OF PHYSICAL DEVELOPMENT OF LOW WEIGHT CHILDREN

Abstract: According to the research findings, the children who received medical and health-improving assistance, applying the developed methodology, were ahead in physical development of similar patients by an average of 33.1%, and in psychomotor development in the second half of their lives – by an average of one and a half – two months.

Keywords: intrauterine growth retardation, low-weight children, physical development.

Introduction. In recent decades, the problems of nursing, sickness rate and mortality of premature babies have become particularly urgent [1]. Many factors, in particular the increase in the frequency of various pathologies in women of childbearing age, both urogenital and extragenital diseases, contribute to premature termination of pregnancy [5].

The proportion of premature babies in the population, according to various regions, ranges from 6 to 12% of all newborns. The frequency of birth of children with very low body weight (1000–1500 g) is 1–1.8%; children weighing less than 1000 g – 0.4–0.5% [2]. But these babies make up 60–70% among those who died in the early neonatal period, and about 50% among those who died in the first year of life. Anatomical and physiological features of an extremely immature organism dictate the need for more careful observation in the pediatric segment [1; 4].

To assess the state of health, determine the nature of deviations in the child's development and make decisions for their correction, it is necessary to conduct continuous monitoring of the growth and development of the child.

New standards will help identify more effectively undersized children and children suffering from overweight / obesity. According to the graphs, the standard trends of expected growth rates allow health workers to identify children who are at risk of malnutrition or obesity earlier, without reaching the level of the problem. By monitoring growth and development, it is possible to detect slowing or stopping in growth due to malnutrition or disease before the development of abnormal signs, while the results of the child's studies are still within acceptable limits [3; 6].

Such early detection also provides the opportunity for early correction of abnormal growth and development. Monitoring growth and development is a medical event that has a huge positive impact on ensuring a healthy childhood.

Objective: to study the effectiveness of the nursing technique on the health status of low birth weight infants with intrauterine growth retardation.

Material and research methods: 104 children born with a gestational age from 34 to 41 weeks of the age of one were examined. Of these, 32 full-term, absolutely healthy children made up the control group. The remaining 72 children were included in the main group (low-weight children). Children from the main group were born with a weight from 1990 to 2056 grams, they were diagnosed with intrauterine growth retardation. Depending on the method of nursing low-weight children, these patients were divided into 2 groups: Group 1, children who received comprehensive medical and health care, according to the recommendation developed by us (n = 49–68.1%); Group 2, similar patients who received medical and health care according to standardized generally accepted recommendations (n = 23–31.9%). Research methods included the types of anthropometric measurements of a child (weight and body length, mass-growth index – MRI). Evaluation of anthropometric indicators was carried out on the recommendation of WHO (2006). Anthropometric measurements were carried out once a month until they reached the age of one. At the same time, at each visit to the polyclinic, children were given a general examination; at 6 months of age, a complete blood and urine test was taken. If necessary, a consultation of narrow specialists (pediatric neuropathologist, orthopedist) was held. According to the study, a statistical processing of the data obtained, using traditional methods of mathematical statistics, was carried out on a personal computer using the mathematical package «STAT-6». Before the study, written permissions were taken from the parents or guardians of the examined patients. In total, the duration of the study was 1.5 years.

The results of the study. The first year of life is a very important period of life for a child and determines his future quality of life. This period is characterized by intensive growth, both indicators of physical development and psychomotor skills. Observation of the children was carried out until they reached the age of one year, since this period is characterized by intense physical development and an indicator of the effectiveness of the nursing method.

Studies have shown that initially the difference in body weight between the first and the second group averaged –2.7%, the other parameters were similar among themselves.

When assessing the physical development of the examined children every month during the first year of life, a statistically significant difference was found between the groups of low-weight children ($p < 0.05–0.01$). In low-weight infants from the second group, in all of the follow-up periods, body weight and MRI were lower than in children who fully complied with the proposed recommendations ($p < 0.05$). According to the results of the study, the following characteristic features of the physical development of children were established when analyzing the adaptation of low birth weight babies.

Especially marked physical developmental deficiencies were observed in children in the second group aged from 6 to 12 months. One of the parameters indicating the nutritional status of the child is the indicator – MRI, which is significantly reduced in children from the second group in all age periods, and more pronounced after 6 months of life. All low-weight infants at the age of 12 months showed weight, height and MRI in the range "median (–1CO) – (–2CO)". These indicators do not correspond to standard values, however, they tend to normalize. At the same time, in group 2.56.3% of children reported a lag in physical development, whereas in group 1 this indicator was 22.2%.

At the same time, a study of the psychosomatic development of the observed patients was conducted. Psychomotor development of children was divided into 4 stages. At the first stage, which lasts from birth to 4 months, the control over the position of the head and the possibility of its free orientation in space (the ability of spatial orientation) takes place. During the second stage – from 4 to 6 months, the initial seating function is mastered, initially with support with a transition to an independent change in the position of the body. At the third stage at the age of 6–8 months, the child develops crawling and attempts to stay on the legs without any support. The development of the motor mechanisms necessary for standing up and maintaining a standing position occurs in the fourth stage between the ages of 8 and 12 months.

In the course of the study, it was determined that patients from group 1 showed an advance in psychomotor development in relation to peers from the second group, in particular, in the second half of their life – on average, one and a half to two months. Given that the analysis of the characteristics of the psychomotor development of the examined patients of the first year of life, is characterized by the prevalence of spatial orientation over the formation of various types of children's activities, in particular movements (the ability to hold toys, bottles, etc.) and speech, their ability to orient in space, in the form of the ability to maintain the position of the body, the ability to sit, the recognition of others, etc. Spatial orientation was formulated and more developed in patients from the first group in relation to the second group, and was ahead on average by 1–2 months of development.

Thus, the analysis showed that the proposed method of management of this category of children contributes to the leveling of disorders in physical development. The health status of premature infants with intrauterine growth retardation is directly affected by the low level of literacy of their mothers in adherence to management tactics during the adaptation period.

Findings:

When conducting complex nursing of low birth weight infants with intrauterine growth retardation, contributes to a 33.1% improvement in the physical development indicators of these children, in relation to their peers.

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Askaryants Vera Petrovna,
docent, the Department of Pharmacology
and Normal physiology Tashkent Pediatric
Medical Institute, Tashkent
E-mail: cool.lolo@mail.ru

TO THE QUESTION OF THE ROLE OF THE HYPOTHALAMUS IN STRESS

Abstract: Based on the literature review one can say the importance of studying the function of brain centers.
Keywords: body, categories, hypothalamus, component.

The hypothalamus is a compartment of the diencephalon occupied by the control of homeostasis set points. There are vegetative nerve centers that set a thermostatic setpoint, a massostatoussetpoint, as well as barostatic and other centers for maintaining the body's balance constants.

Undoubtedly, conscious decisions mature in the highest parts of the central nervous system. But it is the hypothalamus that gives our actions the character of passion, which changes the individual fate, and sometimes the fate of entire ethnic groups. Such concepts, passionarity, duty (according to Selye, "voluntarily adopted a code of conduct") and other categories that link human biology with its history are closely related to the role of the hypothalamus in the body.

The hypothalamus is the main element of the limbic system, coordinating biologically expedient behavior, determining what is pleasant and desirable, and what is unpleasant and disgusting for individuals in sensations and behavioral reactions. It is here that the affective component of sensations and reactions is formed. This has a huge impact on cravings, preferences, value setting.

Near the centers of hunger and thirst, in the lateral parts of the hypothalamus there is a center of rage (anger), irritation of which provokes an aggressive emotional-vegetative-motor reaction and severe stress.

Not far from it, in the periventricular nuclei there is a punishment center, irritation of which provokes fear, displeasure, causes severe pain and an active avoidance reaction, and upon prolonged exposure leads to such severe debilitating stress that it can result in the death of the animal. This hypothalamic center is closely connected with similar formations in the gray matter surrounding the sylvium aqueduct of the midbrain, in the amygdala and hippocampus, which is responsible for some functions of memory and learning. Electrical stimulation of the medial and lateral nuclei of the amygdala and ventral hippocampus enhances the stress response. The center of punishments transmits activating effects to the center of rage, which makes possible an active external response of the animal, defense and avoidance. Stress provoked by irritation of the punishment center, is particularly strong and pathogenic in nature, easily leads to distress and pathological changes in the internal organs of the type of "exhaustion" or "painful adaptation" Coordinated by the center of anger why either turns out to be impossible or limited. These are not merely general behavioral considerations dictated by observations of individuals suffering from unreacted emotions. There are data of quantitative measurements of the level of activation of vegetative functions and the degree of damage to the internal organs in animals subjected to experiments based on a special model of stress – painful effects in conditions of complete immobilization. It does not occur, the realization of the reaction of rage and there is no proper release of endogenous opiates, with their anti-pain and anti-stress regenerative activity, and the destructive potential of stress turns inward. Mobilization of vegetative functions is excessive and prolonged. The described situation is in the behavioral physiology of the name "excerpts". Exposure, that is, stimulation of the center of punishments while braking the reaction of rage, gives the most severe and pathogenic stress. The pathogenicity of stress caused by stimulation of this area of the hypothalamus, is further enhanced if stress is accompanied by an extended stage of anxiety. Additional experimental effects that increase stress are "the introduction of signals that notify in advance of the imminent painful strike, striking at random, not too short periods of time".

This experimental situation is evidently reproduced in real life, with social inhibition of the human being's ability to realize a defensive reaction or when a ban is imposed on its implementation. This leads to the fact that the most pathogenic situation creates a social stress of hopelessness and the dependence of the individual on the source of stress. Wise Japanese psychologists, trying to prevent such situations in production, decorated offices and factories with dolls – stuffed bosses, taking on the blows of angry subordinates.

The main center of pleasure (or reward, satisfaction) is also in the hypothalamus, along the central bundle of nerve fibers in the ventromedial and lateral nuclei and is represented by noradrenergic neurons. It soothes stress. Having the ability to self-stimulate this center, animals have an irresistible attraction for this and prefer such self-satisfaction to food, sex and any other means of obtaining pleasure. Such an obsessive

pattern of behavior is reminiscent of the actions of fanatics and drug addicts. The pleasure center is closely connected with the centers of saturation and sexual desire, but not only with them.

A remarkable feature of this center is its close connection and even anatomical overlap with the center of anger. Moderate stimulation of the centers of rage may be accompanied by a positive affective component. Obviously, this is necessary for neurosecretory and vegetative provision of the protective effect of emotional discharge in case of the threat of distress. But isn't this what makes some individuals angry or even sadistic? According to B. S. Egelmen and P. Kotton(1993), chronic stress alters the neurochemical characteristics of the intermediate brain of rats, steadily increasing their intrahypothalamic tyrosine hydroxylase activity and lowering the β-adrenoreceptor content in the brain. This correlates with aggressive behavior. It is assumed that aggression allows rats to use anti-stress mechanisms and adapt to chronic stress. Aggressive this doctrine, which treats aggressive behavior as biologically rational for certain situations, has been called "neurocalvinism." K. Lorenz substantiated the evolutionary expediency of the mechanisms of aggression in the classic work "The so-called evil: the nature of aggression" by the fact that this form of behavior contributes to the establishment of social hierarchical, territorial and marital relations in animals. Additional centers of awards are located in the amygdala, septum, optic tubercle, subcortical nuclei and lid of the midbrain. Electrical stimulation of the lateral part of the basal nucleus of the almond-shaped complex and its corticomedial nuclei, as well as the dorsal part of the midbrain, soothes the stress response. Stimulation of the basal nuclei of the amygdala activates it. The nuclei of the hippocampus have an anti-stress effect.

In turn, the hippocampus is an obligatory switching station for all sensory projections of the new cortex, with the exception of the olfactory, which gives it the ability to control stress responses in response to a variety of sensory stimuli, for example, visual and auditory.

Interestingly, in the case of single combat, positive and negative stimuli and, therefore, centers of satisfaction and displeasure in experimental animals conquer invariably the latter, the stressful effects of which influence behavior more strongly than the anti-stress action of the center of rewards. It is very important that repeated effects of the stressor cause desensitization and addiction to it, as the stressor becomes a routine factor, it causes more and more weak stress and less and less cortical electrophysiological response. It is very important that repeated effects of the stressor cause desensitization and addiction to it, as the stressor becomes a routine factor, it causes more and more weak stress and less and less cortical electrophysiological response. However, if the stressor acts with reinforcement by stimulating the reward center or punishment center, then there is no response fading. In this regard, stress stimulates memory especially, short-term. According to some data, ACTH and vasopressin are even in the hippocampus and other parts of the central nervous system the neurotransmitters of memory centers. These data point to the important role of stress in its associated hypothalamic changes in reinforcement and training.

The neurochemical aspects of the regulatory functions of the foothill region can be characterized as follows.

Hypothalamic neurosecretory cells of a person secrete the following main groups of biostimulants.

Liberins (i.e., neuroendocrine stimulants of production of pituitary peptides with an identified structure).Liberins include thyroliberin, which is also a weak prolactoliberin (tripeptide), lyuliberin (decapeptide, which is both follyliberin, that is, common gonadoliberin), somatoliberin (44 amino acids), and the key stress liberalin – corticoliberin and releasing factors (stimulants). hormones with not exactly established structure). A non-characterized peptide that stimulates the production of the melanocyte-stimulating hormone MSH is called MSH-RF.

Statins (peptides with an established chemical structure that inhibit the production of pituitary hormones by a neuroendocrine method) and inhibiting factors (similar peptides whose structure is not deciphered). This group includes somatostatin, this neuropeptide inhibits many different functions and is sometimes referred to as pangibin. It is fundamentally important that statins (like liberins) can act not only by neuroendocrine transgipofizarnnym way, but also through the cerebrospinal fluid and systemic blood flow (thyroliberin, somatostatin, CRF), paracrine – within the hypothalamus and as neurotransmitters in peptide syndrome.

Nonapeptides (arginyl- and lysyl-vasopressin and oxytocin). These are the first neurohormones found in the hypothalamus and the most quantitatively significant products of its neurosecretion. In addition to the neuroendocrine systemic effect, they have a trans-hypophysial effect, and can also be peptidergic neurotransmitters and paracrine regulators in the CNS.

Vasopressin serves as an important stimulator of ACTH secretion under stress and, like corticoliberin, is released into the pituitary system. Vasopressin has a mitogenic effect on the cells of the glomerular zone of the adrenal cortex. The other nonapeptide, oxytocin, exhibits a weak corticoliberin-like effect. Nonapeptides use receptors and post-receptor mediators other than CRF in adenohypophysis cells and affect not only synthesis, but release of ACTH, therefore the effects of CRF and octapeptide during stress are summed up.

Monoamines, among which the most important place is occupied by dopamine, which functions as an inhibitor of prolactin secretion and also called conditionally "prolactostatin". Its effect has a much stronger effect on the functions of prolactin synthesizing cells of the adenohypophysis than the effects of

all identified and suspected peptide stimulants of prolactinogenesis. Therefore, at the intersection of the pituitary stalk, the production of all the hormones of the adenohypophysis (secondary panhypopituitarism) is inhibited, except for prolactin, the synthesis of which is, on the contrary, disinhibited. The other monoamines of the under-the-hill monoamines act as neurotransmitters and are represented by serotonin, adrenaline, noradrenaline and histamine. Melatonin can be transported here from the pineal gland. Abundantly represented in the foothill and neurons synthesizing GABA. In relation to stress, stimulating the release of corticoliberin and vasopressin, cholinergic and serotonergic systems are stimulants.

Endogenous opiates represent a special group of widely distributed anti-stress neuropeptides. They are also produced by the hypothalamus, and the hypothalamus, along with the nucleus tractus solitaries in the medulla oblongata, is a unique place for the formation of opioid peptides of all three families – proopiomelanocortin, proenkephalin and proinorphin-neoendorphin. Opiates can act by the neuroendocrine route (released into the blood and cerebrospinal fluid), as well as peptide synaptic mediators and paracrine regulators, in the hypothalamus itself – this is the central nervous system. The main opioid is β-endorphin.

The hypothalamus produces many other neuropeptides, widely represented in all its nuclei, as well as throughout the body, in the cells of the diffuse endocrine system (apudocytes), in particular, also produced by the enteric system of the gastrointestinal tract, secretory cardiomyocytes, jukstaglomerular kidney complex, other elements scattered in the body of mixed origin. These neuropeptides are often very important for the hypothalamic autonomic functions, but they do not act through the bloodstream, like liberins and statins, but paracrinely – at the adjacent centers of the foothill, or in the mode of synaptic peptide neurotransmitters in the hypothalamus and other parts of the CNS.

Cytokinins can penetrate the hypothalamus through the vascular organ of the end plate and the neurohematic formations of the neurohypophysis. In addition, the cytokines form astroglia of the hypothalamus itself and the surrounding formations.

So, under stress, the hypothalamus is activated by both humoral factors (hypoxia, hypoglycemia, interleukins), reaching it through neurohemal structures, and nerve cholinergic and serotonergic influences emanating from the limbic system and other CNS departments.

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Akhmedov Jobir,
Tashkent Medical Academy
E-mail: akhmedov@mail.ru

COMPARATIVE CHARACTERISTICS OF AGE CHARACTERISTICS OF MORPHOMETRIC PARAMETERS OF DIFFERENT PARTS OF THE SPINAL COLUMN IN GIRLS AND BOYS AGED13 TO 16 YEARS

Abstract:

Objects of the study: healthy girls and boys from 13 to 16years old, pupils of the school number 278 of the Almazar district of Tashkent. In total there were examined 111 girls and 89 boys aged 13 to 16.

The obtained data was subjected to statistical processing on a Pentium IV computer, using the Microsoft Office Excel 2007 software package, including the use of built-in statistical processing functions.

The rate of growth in girls aged 13 to 16 years increased 1.16 times and amonh boys 1.24 times. The size of the cervical spine in girls aged 13 to 16 years increases by 1.20 times and among boys 1.29 times; the length of the thoracic spine in girls aged 13 to 16 increases 1.14 times and in boys 1.21 times, the length of the lumbar region for girls increases 1.14 times for boys 1.16 times and the length of the sacrococcygeal department in girls is increased by 1.21 times for boys 1.29 times.

The rate of increase in the length of the spine in boys aged 13 to 16 years is more intense than in girls of the same age.

Keywords:

Age features of morphometric indices of different parts of the spinal column in girls aged 13 to 16 years.

Urgency: The problem of spinal column among young generation can be considered as a serious public issue in the worcforce and leads to face difficulties in professional activities. In addition, growth rate in the spinal column develops in childhood, adolescense and slows down as individual getting older. Albeit, the solutions and scientific works in that area have not been achieved sufficiently. Thus, the following pape has been conducted in that medical area. The cross sectional study has been carried out about spinal growth rate among school children, particularly the data was taken from both genders.

The anthropometric measurements are considered as age dynamics, genders, visual inspection of the deformity of the vertebral column and others.

The purpose of the study: To study the age features of the morphometric indices of various parts of the spinal column in children and adolescents.

Material and methods of investigation

The material for the study was practically healthy children from 13 to 16 years old, pupils of the school number 278 of the Almazar district of Tashkent. In total there were examined 111 girls and 89 boys between 13 to 16 years old.

The obtained data was subjected to statistical processing on a Pentium IV computer using the Microsoft Office Excel 2007 software package.

Results of the study and their discussion. Studies have shown that the total length of the vertebral column of 13 years old female ranges from 52.56 cm to 60.12 cm, on average of 55.93 ± 3.13 cm. The length of the cervical region ranged from 6.35 cm to 7.27 cm, on average 6.77 ± 0.36 cm. The length of the thoracic region was in the range from 27.27 cm to 31.20 cm, on average 29.03 ± 1.71 cm. The length of the lumbar part of spinal column varies from 9.93 cm to 11.36 cm, on average of 10.57 ± 0.57 cm. The length of the sacrococcygeal part varied from 8.98 cm to 10.28 cm, on average of 9.56 ± 0.45 cm.

The total length of the vertebral column of 13 yeras old male varies from 50.04 cm to 59.04 cm, on average 55.13 ± ± 3.13 cm. The length of the cervical region ranged from 6.05 cm to 7.14 cm, on average 6.67 ± 0.36 cm. The length of the thoracic region was in the range from 25.97 cm to 30.64 cm, on average of 28.61 ± 1.71 cm. The length of the lumbar part varies from 9.45 cm to 11.15 cm, on average 10.41 ± 0.57 cm. The length of the sacrococcygeal part varied from 8.55 cm to 10.09 cm, on average of 9.42 ± 0.45 cm.

The total length of the spinal column among 14 years old female ranges from 50.0 cm to 61.92 cm, on average 56.34 ± 3.02 cm. The length of the cervical region varied from 6.05 cm to 7.49 cm, on average 6, 82 ± 0.29 cm. The length of the thoracic region was in the range from 25.97 cm to 32.13 cm, on average 29.24 ± 1.67 cm. The length of the lumbar spine varies from 9.45 cm to 11, 70 cm, on average of 10.64 ± 0.55 cm. The length of the sacrococcygeal part varied from 8.55 cm to 10.58 cm, on average of 9.63 ± ± 0.53 cm.

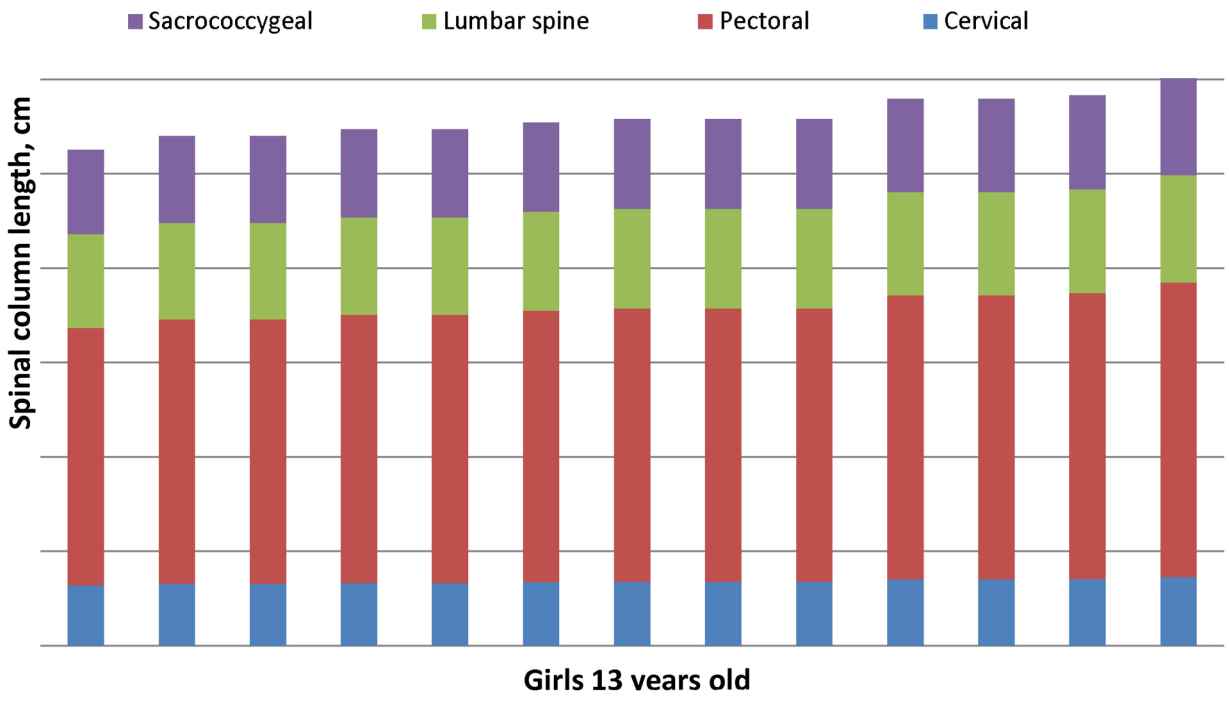

Figure 1. The figure shows the length of the spinal column and its sections in(cm) among 13 years old girls

Figure 2. The length of the spinal column and its sections in 13 year old children

The total length of the spinal column of 14 years old male ranges from 52.56 cm to 61.2 cm, averaging 56.54 ± 3.02 cm. The length of the cervical region varied from 6.36 cm to 7.4 cm, in average of 6, 84 ± 0.29 cm. The length of the thoracic region was in the range from 27.28 cm to 31.76 cm, on average 29.34 ± 1.67 cm. The length of the lumbar spine varies from 9.93 cm to 11, 57 cm, on average of 10.68 ± 0.55 cm. The length of the sacrococcygeal region varied from 8.98 cm to 10.46 cm, on average of 9.67 ± 0.53 cm.

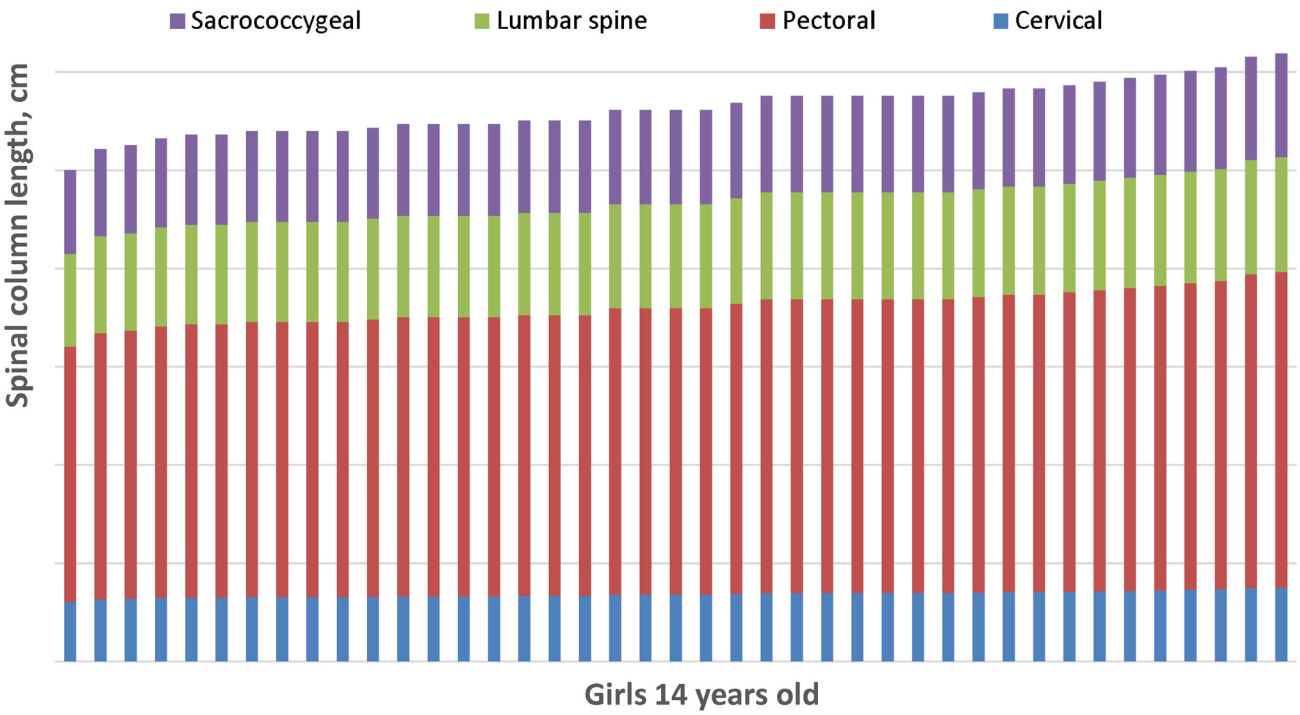

Figure 3.The table shows the length of the spinal column and its sections in(cm) in 14 year old girls

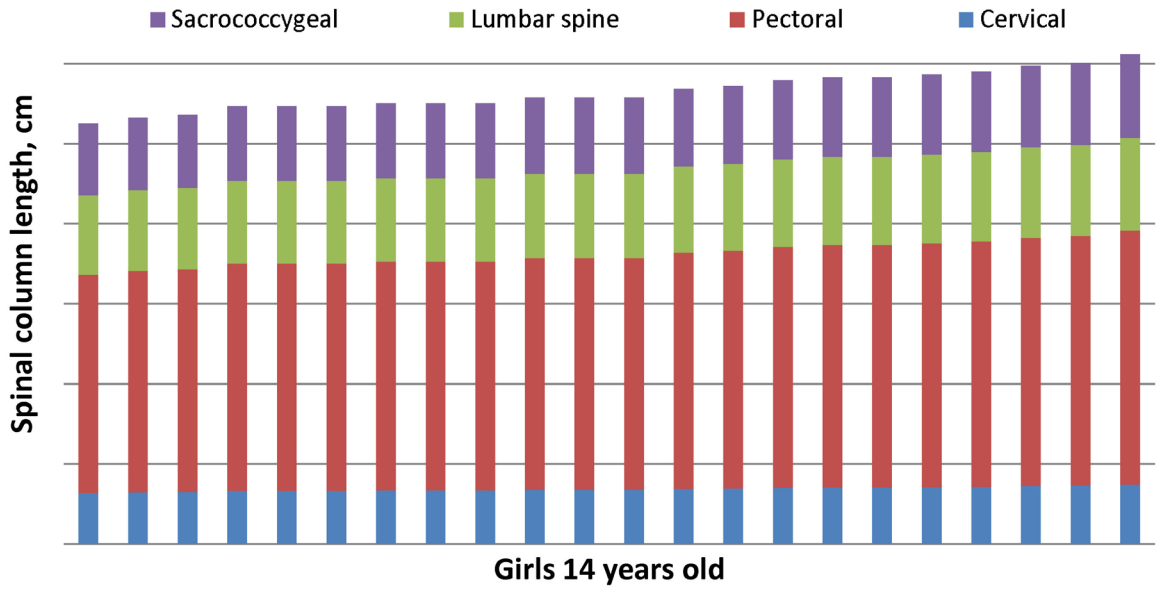

Figure 4. The length of the spine and its sections in 14 year old children

The total length of the spinal column of 15 years old female ranges from 54.8 cm to 61.92 cm, averaging 63.6 ± 3.43 cm. The length of the cervical region varied from 6.90 cm to 8.92 cm, on average 8.02 ± 0.43 cm. The length of the thoracic part was in the range from 27.95 cm to 36.1 cm, on average of 32.45 cm. The length of the lumbar spine varies from 10.2 cm to 13.17 cm, on average of 11.83 ± 0.54 cm. The length of the sacrococcygeal part varied from 9.8 cm to 12.7 cm, on average 11.38 ± 0.56 cm.

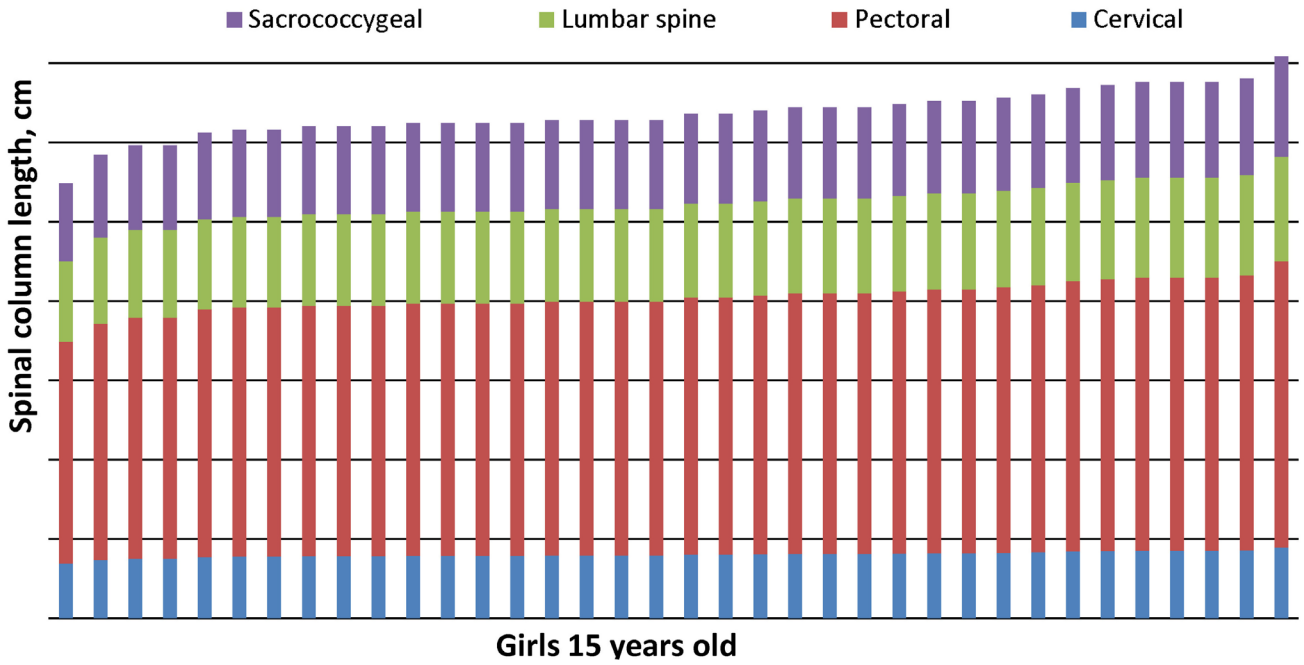

Figure 5.The figure indicates the length of the spinal column and its sections in(cm) in 15years old girls

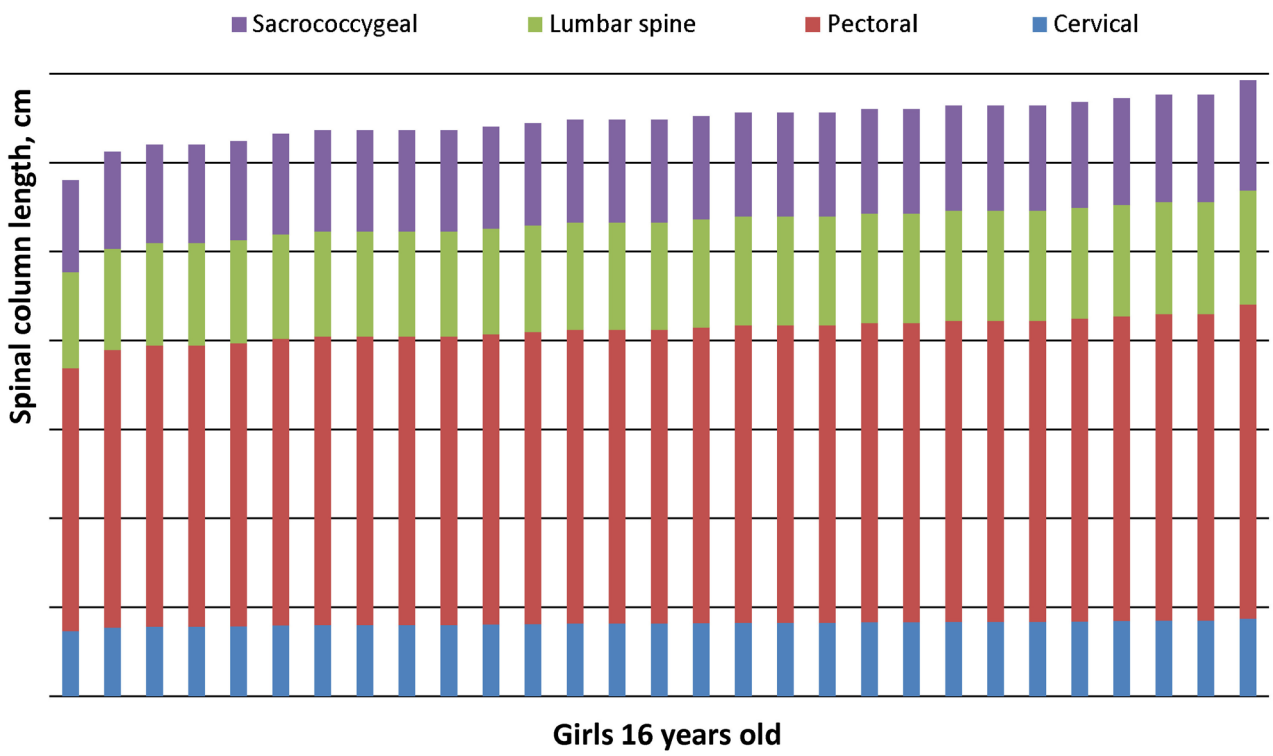

Figure 6. Indicators of the length of the spinal column and its sections in (cm) in 16 year old girls

The total length of the spinal column of 15 years old male varies from 58.8 cm to 76 cm, on average of 65.8 ± 3.83 cm. The length of the cervical region varied from 7.40 cm to 9.58 cm, on average of 8.29 ± 0.43 cm. The length of the thoracic region was in the range from 29.9 cm to 38.76 cm, on average of 33.55 cm. The length of the lumbar spine varies from 10.94 cm to 14.14 cm, on average of 12.24 ± 0.54 cm. The length of the sacrococcygeal part varied from 10.52 cm to 13.60 cm, on average of 11.78 ± 0.56 cm.

The total length of the vertebral column among 16 years old female ranges from 58 cm to 69.2 cm, on average 64.74 ± ± 3.82 cm. The length of the cervical region ranged from 7.31 cm to 8.72 cm, on average, 8.16 ± 0.39 cm. The length of the thoracic region was in the range from 29.58 cm to 35.29 cm, on average 33 ± 0.32 cm. The length of the lumbar spine varies from 10.78 cm to 12.87 cm, on average of 12.04 ± 0.56 cm. The length of the sacrococcygeal part varied from 10.38 cm to 12.39 cm, on average of 11.58 ± 0.65 cm.

The total length of the vertebral column among 16 years old male pupils ranges from 63.2 cm to 74.0 cm, averaging 68.29 ± 3.82 cm. The length of the cervical region ranged from 7.96 cm to 9.32 cm, on average of 8.6 ± 0.39 cm. The length of the thoracic region was in the range from 32.23 cm to 37.74 cm, on average 34.8 ± 0.32 cm. The length of the lumbar spine varies from 11.75 cm to 13.76 cm, on average of 12, 07 ± 0.56 cm. The length of the sacrococcygeal region varied from 11.31 cm to 13.24 cm, on average of 12.22 ± ± 0.65 cm.

Thus, Increasing in the length of the spinal column in female children between 13 and 16 years in the cervical and sacrococcygeal region occurs more intensively in compare with the thoracic and lumbar part of spinal colum and increasing in the length of the spinal column in male between 13 to 16 years in the cervical and sacrococcygeal region occurs more intensively than in the thoracic and lumbar region.

Conclusions:

1. The total length of the spinal column in girls from 13 to 16 years increases 1.16 times and in boys 1.24 times;

2. The growth rates for girls aged 13 to 16 years increased 1.16 times, boys 1.24 times. The size of the cervical part in girls aged 13 to 16 years increases by 1.20 times and in boys 1.29 times; the length of the thoracic part in girls between 13and 16 years increases 1.14 times, in boys 1.21 times, the length of the lumbar region in girls increases 1.14 times in boys 1.16 times and the length of the sacrococcygeal part in girls is increased by 1.21 times, in boys 1.29 times.

3. The growth rate of spinal column is more intensive in boys aged 13 to 16 in compare of same aged girls

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Ahmedjanova Nargiza,
PhD., in medicine, department of pediatrics
№ 3 and medical genetics
Samarkand State Medical Institute,
E-mail: n_ismailovna@mail.ru

Akhmedzhanov Ismail Ahmedjanovich,
professor, department of pediatrics surgery,
Samarkand State Medical Institute

Melieva Gulsara,
PhD., in medicine, department of pediatrics
№ 3 and medical genetics,
Samarkand State Medical Institute

Mamatkulova Dilrabo,
PhD., in medicine, department of pediatrics
№ 3 and medical genetics,
Samarkand State Medical Institute

Bakhranov Sherzod,
assistant, department of pediatrics
№ 3 and medical genetics,
Samarkand State Medical Institute

OPTIMIZATION OF METHODS OF DIAGNOSTICS AND TREATMENT OF SECONDARY CHRONIC PYELONEPHRITIS IN CHILDREN

Abstract: The point finger of intersection of the XII rib and the outer edge of the long back muscle (m. Sacrospinalis), was determined by the index finger of the left arm and that place was pre-treated with alcohol or iodine. The use of complex treatment: regional lymphotropic antibacterial therapy + vitamin A in chronic pyelonephritis is an effective method of therapy, which leads to the restoration of daily diuresis, has a positive effect on the level of oxaluria, the functional state of the kidneys and cytokine urine profile: IL-10, IL –1, IL-6, IL-8.

Keywords: chronic pyelonephritis, children, diagnostics, lymphotropic.

Among kidney diseases, pyelonephritis ranks first. The spread of pyelonephritis in the children's population, according to different authors, ranges from 7.3% to 37.5–46.3% with clarification of diagnoses in nephrological hospitals [2; 3; 7]. According to several authors, it has now been established that instability of cytomebranes of renal epithelium is an important component of the pathogenesis of chronic pyelonephritis [4; 5].

In the development of HP, virulent and sufficiently massive infection is significant its biological property is persistence, which determines the process of prolonged bacterial experience in the host organism. This phenomenon causes a disturbance of urodynamic.

However, observations of leading nephrologists indicate that recurrent course is defined in 30–50% of patients, with 90% of them having their first relapse within the next three months after the first episode [6]. Probably, the uniform scheme or plan of treatment, despite of all advantages, not always defines or determines a positive result of treatment. It is necessary to use new means of normalizing the stability of membranes of kidney tissue of the child's organism, which directly stimulate and correct the defects of the metabolic system [8; 9; 11].

According to several studies, vitamin A deficiency causes an increase in the incidence of urinary infections, while the introduction of vitamin A leads to a decrease in the incidence of UTI. It is known that lymphotropic administration gives completely new properties to low-molecular drugs, due to which they penetrate through the biological barriers into the scar-modified and inflamed kidney tissue, that makes it possible a sufficient therapeutic concentration there [1].

Damage to proximal tubular cells demonstrated in a number of studies as a key event in the formation of tubulointerstitial changes, which causes the release by means of these cells of cytokines (interleukins 1, 6, 8, 10), promoting

the involvement of macrophages and T-lymphocytes in the interstitial kidneys, which in their turn secrete mediators, stimulating the further involvement of cells in the interstitium, indicates the important role of indicated cytokines in the pathogenesis of tubulointerstitial damage as local mediators, formed directly in the renal tissue [10].

Objective: to evaluate the complex treatment of chronic pyelonephritis in children.

The study involved 177 children with chronic pyelonephritis on the background of dysmetabolic disorders of the oxaluria type at the age of 4 to 15 years. Patients were conditionally divided into 2 groups depending on the method of treatment. Group I included 48 children who received conventional therapy (in the first three days, usually cefotaxime i/m, after the results of bacteriological study – antibacterial drug, depending on the sensitivity of the pathogen). Group II consisted of 37 patients who received antibiotics in a lymphotropic way, that is, RLAT method (regional lymphotropic antibacterial therapy) in combination with vitamin A.

Method: The point finger of intersection of the XII rib and the outer edge of the long back muscle (m. Sacrospinalis), was determined by the index finger of the left arm and that place was pre-treated with alcohol or iodine. Then, at this place, a thin needle puncture was performed and 0.25% solution of novocaine was administered as a lymphostimulator at the rate: 3–5 ml to children with a body weight of up to 16 kg, and 5–10 ml to ones with more than 16 kg, after 5–10 min an antibiotic (cefotaxime) was administered in an amount of 1/3 of the daily age dose (ie, from the calculation of 50 mg / kg of body weight) [1]. Patients of both groups received a profuse drinking and were on a diet used for oxaluria. The control group consisted of 25 practically healthy children of the same age.

Genealogical analysis of pedigree was carried out to establish the fact of hereditary burden of all examined children. The indices of the urinary cytokine profile and the functional state of the kidneys were studied in all children before and after treatment. Glomerular filtration of the kidneys was determined by the clearance of endogenous creatinine (Van Slayke) and osmolarity of urine by cryoscopic method on OMK apparatus A – 1 C – 01, oxalate by NV. Dmitrieva (1966).

Commercial sets were used to measure interleukin levels-1, 6, 8, 10 in serum and urine in children with chronic pyelonephritis: CYTELISA-IL-1b, CYTELISA-IL-1, CYTELISA-IL-6, CYTELISA-IL-8, CYTELISA – IL-10 (CYTIMMUNE, USA). Their application is based on the "sandwich" method of solid state enzyme-linked immunosorbent analysis (ELISA-enzyme-linked immunosorbent assay), the principle of which is the qualitative and quantitative determination of the antigen under study by its layer-by-layer binding to antibodies specific for it. Mathematical processing of the obtained results was carried out using computer statistical programs Excel.

When studying the parameters of the cytokine profile of urine, depending on the method of treatment of chronic pyelonephritis, it was revealed: in children receiving standard therapy (group I), before discharge from hospital, the level of IL-1, IL-6, IL-8, IL-10 in urine was almost not changed ($P_1 > 0.1$) (Table 1).

Table 1.– Dynamics of cytokine urine profile in patients with chronic pyelonephritis, depending on the treatment method (M ± m)

Indices	Healthy (n = 25)	Before (n = 177)	After treatment	
			A group I (n = 48)	A group II (n = 37)
IL-1	3.7 ± 0.73	39.76 ± 0.74; P < 0.001	39.9 ± 0.69; $P_1 > 0.1$	12.2 ± 0.69; $P_1 < 0.001$. $P_2 < 0.001$
IL-6	2.4 ± 0.25	105.8 ± 2.13; P < 0.001	105.3 ± 1.68; $P_1 > 0.1$	10.45 ± 0.79; $P_1 < 0.001$. $P_2 < 0.001$
IL-8	6.1 ± 0.32	466.5 ± 6.14; P < 0.001	458.2 ± 6.8; $P_1 > 0.1$	36.0 ± 3.34; $P_1 < 0.001$. $P_2 < 0.001$
IL-10	6.4 ± 0.91	1.71 ± 0.19; P < 0.001	2.8 ± 0.19; $P_1 > 0.1$	6.8 ± 1.13; $P_1 < 0.001$; $P_2 < 0.05$

Note: P – reliability of the difference between healthy children and in those chronic pyelonephritis; P1 – the reliability of the difference between the indicators before and after treatment; P_2 – the reliability of the difference between traditional therapy and the group of children who received RLAT in combination with vitamin A

More pronounced changes in the cytokine urine profile in patients were revealed on the background of the use of RLAT in combination with vitamin A (group II). Our study showed that the "average" concentration of IL-1, IL-6, IL-8 in urine in children of the 2nd group after treatment with 4th scheme had a more positive downward trend, compared to group 1 (Table 1).

After treatment of group II of patients, the level of IL-10 had a relatively high tendency toward normalization ($P_1 < 0.01$, $P_2 > 0.01$), compared to group 1 ($P_1 > 0.1$) (Table 1).

After the therapy in both groups, we recorded a relatively high tendency to normalize the concentration of cytokines: IL-1, IL-6, IL-8, IL-10 in urine in children of group 2, which indicates the advantage of the 4th scheme of treatment.

Analyzing the state of kidney function in the examined patients who received traditional treatment, there was an improvement in the indices, but the difference was statistically unreliable ($P_1 > 0.1$). In Group II patients, after the treatment, there was a significant increase in the clearance of endogenous creatinine ($P_1 < 0.001$), urine osmolality ($P_1 < < 0.001$), daily diuresis ($P_1 < 0.001$), oxaluria ($P_1 < 0.001$) compared with pre-treatment and post-treatment using conventional treatment of children of clinical group I ($P_2 < 0.001$) (Table 2).

Table 2.– Dynamics of renal partial function in patients with chronic pyelonephritis, depending on the treatment method (M ± m)

Indices	Healthy(n = 25)	Before(n = 177)	After treatment	
			A group I(n = 48)	A group II(n = 37)
GFR. мл/мин.м^2	98.6 ± 7.8	72.0 ± 0.25; P < 0.001	72.5 ± 1.59; $P_1 > 0.1$	96.8 ± 1.61; $P_1 < 0.001$, $P_2 < 0.001$
Urine osmolarity. mmol\24h	1000 ± 200	646.7 ± 9.9; P < 0.001	712.7 ± 24.73; $P_1 <$ 0.001	935.7 ± 24.0 $P_1 < 0.001$, $P_2 < 0.001$
Daily dieresis. l\24h	1.7 ± 0.036	1.06 ± 0.015; P < 0.05	1.08 ± 0.027; $P_1 > 0.1$	1.22 ± 0.046 $P_1 < 0.05$, $P_2 < 0.05$
Oxaluria. mg\24h	25 ± 2.4	46.8 ± 1.14; P < 0.001	45.2 ± 1.66; $P_1 > 0.1$	26.4 ± 0.29 $P_1 < 0.001$, $P_2 < 0.001$

Note: P-reliability of the difference between healthy children and in those with chronic pyelonephritis; P_1 – the reliability of the difference between the indicators before and after treatment; P_2 – the reliability of the difference between traditional therapy and the group of children who received RLAT in combination with vitamin A.

The obtained results allowed to recommend complex treatment (RLAT + vitamin A) of chronic pyelonephritis for the prevention of frequent relapses, development of renal failure, that is, to use at as a method of renoprophylaxis.

Conclusions. 1. In the period of exacerbation of chronic (oxalate) pyelonephritis, damages to partial functions of the kidneys were noted in patients: a decrease in the glomerular filtration rate, osmolarity of urine, daily diuresis; immune disorders: a significant decrease in IL-10 and an increase in IL-1, IL-6, IL-8 in urine. 2. The use of complex treatment: regional lymphotropic antibacterial therapy + vitamin A in chronic pyelonephritis is an effective method of therapy, which leads to the restoration of daily diuresis, has a positive effect on the level of oxaluria, the functional state of the kidneys and cytokine urine profile: IL-10, IL-1, IL-6, IL-8.

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Bababekova Nigora Bakhtiyarovna,
associate professor of Tashkent pediatric medical institute,
E-mail: otdel.nayka@mail.ru
Khodjaeva Sabri Makhmudovna,
associate professor of Tashkent pediatric medical institute,
E-mail: shohidahon69@mail.ru
Nabieva Dilnoza Djuraevna,
assistant of Tashkent pediatric medical institute
Valiev Abduaziz Abdusmatovich,
assistant of Tashkent pediatric medical institute

FEATURES OF CELLULAR IMMUNITY IN PRESCHOOL CHILDREN WITH PSORIASIS BEFORE AND AFTER TREATMENT

Abstract: The article is devoted to the problem of studying the features of cellular immunity in preschool children with psoriasis, before and after treatment. In this study 28 children with psoriasis surveyed, aged 3 to 6 years inclusive. For the control group, comparisons were taken from 12 healthy children of the same age and sex. Personal and family history was thoroughly studied in all patients, general clinical examinations, and immunological methods for studying cellular immunity (CD3 +, CD4 +, CD8 +, CD16 + and CD20 +) were conducted.

It has been found that in preschool children with psoriasis, there is a decrease in the total number of T-lymphocytes (CD3 +), T-helper cells (CD4 +), T-suppressors (CD8 +), and an increase in B-lymphocytes (CD20 +), natural killer cells (CD16 +) and immunoregulatory index. After therapy, an increase in the level of CD3 +, CD20 +, CD4 + and CD8 + immunoregulatory lymphocyte subpopulations is noted. At the same time, the inclusion of immunomodulating therapy contributes to the normalization to the control values of the indices CD4 + and CD8 + of immunoregulatory lymphocyte subpopulations.

Keywords: children, cellular immunity, lymphocytes, immunomodulating therapy, index.

Relevance. Psoriasis is one of the most common diseases of the skin of childhood and ranks second in terms of incidence after atopic dermatitis [1; 3], its share in the structure of pediatric dermatoses ranges from 1 to 8% [4].

In recent years, the problem of psoriasis is of particular importance in connection with the increasing incidence of the disease among children, especially preschool and older, an increase in complicated forms and torpid with respect to treatment [2]. The clinical course of psoriasis in childhood, unlike adults, has its own characteristics; therefore, it is important to study the characteristics of the clinical course of psoriasis in children, taking into account the age aspect [6].

In the multifactorial pathogenesis of psoriasis, the violation of the immune mechanisms takes the leading place [5; 7]. However, objective and informative immunological criteria for assessing the nature of the course of psoriasis in children, prediction and its outcomes have not yet been developed [1; 8]. In this regard, the topicality of studying immunity, in particular cellular immunity in children with psoriasis, is still relevant.

Materials and methods. The studies were conducted on the basis of the pediatric dermatology department of the Tashkent pediatric medical institute clinic. 28 children with psoriasis, aged 3 to 6 years inclusive were examined. Of these, there were 18 girls (64%), and 10 boys (36%). For the control group, comparisons taken from 12 healthy children of the same age and sex.

Before starting the study, written permission for the examination taken from the parents or from the guardians of all the examined children. Personal and family history was thoroughly studied in all patients with psoriasis, general clinical examinations (blood, urine, feces, biochemical studies) were conducted, the children were consulted by a pediatrician, neuropathologist, ENT, ophthalmologist, dentist and, if necessary, by other specialists. All patients received inpatient treatment, treatment was prescribed taking into account the age, stage, severity and clinic of the disease. After treatment in the hospital, sick children were regularly (at least once a month) observed on an outpatient basis for 3 years.

Immunological methods for studying cellular immunity included determining the total number of T and B-lymphocytes, their subpopulations (CD3, CD4, CD8 and CD20). At the same time, from the total number of lymphocytes, the determination of the percentage of T-lymphocytes performed in the reaction of indirect rosetting (PHRO), respectively, by the detection of populations and subpopulations of T-lymphocytes and B-lymphocytes. The study of the nature

of changes in the indices of CD4 + and CD8 + subpopulations of T-lymphocytes was carried out with the calculation of the immunoregulatory index (IRI).

Depending on the therapy, the patients divided into age categories, divided into 3 groups: the control group and the two studied groups. In all groups, the subjects were of similar age and gender. I-st study group (I-SG, n = 13) – traditional medical therapy was carried out to the patients, according to the standard of treatment including antihistamines, sedatives, hyposensitizing, hepatoprotective therapy, as well as calcium preparations and vitamin preparations. As a local therapy, 1–2% salicylic and boric acid ointments, corticosteroid creams and ointments prescribed.

II-nd studied group (II-SG n = 15), in addition to the standard basic drug therapy, patients were additionally prescribed an immunomodulator of polyoxidonium® (Polyoxidonium) for use in pediatrics, 6 mg 2 times a day. The duration of treatment was 10 days. The obtained data subjected to statistical processing on a Pentium-4 personal computer using the programs developed in Excel 2013.

Results and discussion. The clinical course of psoriasis, in childhood, in contrast to adults has its own characteristics. According to the results of anamnestic data collection, the duration of the disease ranged from 3 months to 4 years. In 7 (25%) mothers observed by our patients, the pregnancy was normal, in 21 (75%) with toxicosis and threatened miscarriage, in 19 (68%) women anemia was observed during pregnancy. Most of the children (90%) were born on time, without complications. Asphyxia observed in 2% of children at birth, and birth trauma in 1%. According to the results of the study, in children, the psoriatic process begins suddenly with the appearance of single, sometimes multiple eruptions, within limited areas. The primary elements of the rash were round-oval papules, covered with silver-white scales, pink lentil-sized. At the same time, psoriatic lesions were more often located on the scalp (77.3%), body (79.1%), upper (91.8%) and lower extremities (90.0%), less frequently on the face (33.6%) and folds (2.7%) and the process mainly proceeds in the form of a vulgar form (86.4%), while the eruptions had a drop-like (36.4%), nummular (10.9%) and plaque (39.1%) form.

Hospitalized patients had a degree of severity: mild in 1 (3.6%) patient, moderate – 14 (50%) and severe in 13 (46.4%) patients. During the study of the cellular immunity markers, it was noted that in patients with moderate form of the disease, before treatment, a decrease in the total number of peripheral blood CD3 + T-lymphocytes was observed (49.09 ± 0.90 against 63.43 ± 0.59 in healthy). While the total number of B-lymphocytes (CD20 +) was at significantly high levels (18.36 ± 0.90 versus 11.50 ± 0.33 in healthy ones), ($P < 0.05$). This was confirmed by indicators of the suppression and induction index and was expressed by ↓ EC = 1.29 and ↑ AI = 1.60 values, respectively. Before treatment, patients with immunoregulatory T-cell subpopulations showed a decrease in the level of CD4 + (30.73 ± 0.51 vs. 33.64 ± 0.58 in healthy), CD8 + (15.73 ± 0.38 vs. 20.71 ± 0.67 in the healthy) and, accordingly, an increase in the immunoregulatory index (IRI = ↑ 1.22), ($P < 0.05$). Accordingly, confirming these changes, an increase in the number of natural killer cells (CD16 +) was noted with the AI induction index = ↑ 1.28.

Thus, in children with psoriasis in preschool age with a moderate form of the disease in the period of exacerbation before treatment, a significant decrease in CD3 +, CD4 +, + CD8 + and an increase in the level of CD20 +, CD16 + and IRI are observed.

In the group of patients with a severe form of the disease before treatment, the total level of T-lymphocytes was reduced (50.43 ± 0.71 versus 63.43 ± 0.59 in healthy), the B-lymphocyte count in an elevated state (17.52 ± 0.55 vs. 11.50 ± 0.33) compared with healthy children. The suppression index and induction index were within the SI = ↓ 1.26 II = ↑ 1.52 values. The number of natural killer cells (CD16 +) was increased (19.22 ± 0.66 patients; 14.40 ± 0.12 healthy), respectively, the induction index was II = ↑ 1.33 values. The levels of CD4 + and CD8 + were also reduced (31.57 ± 0.45 and 15.52 ± 0.34 patients; 33.64 ± 0.58 and 20.71 ± 0.67 healthy) and, accordingly, the indicator of immunoregulatory index was significantly increased (IRI = ↑ 1.29).

Thus, in children with psoriasis in preschool children with a severe form of the disease during the exacerbation period before treatment, there was a decrease in CD3 +, CD4 +, CD8 + and an increase in the level of CD20 +, CD16 + and IRI; however, these values did not differ significantly from those of the moderately severe group.

As result of the treatment in children with moderate severity of the disease at the end of 3 weeks, the CD8 + and IRI scores reached the healthy children (II = 1.28 and ↑ II = =1.27, respectively). However, the values of these datas differ significantly from those of the control group, i.e. remained lower or higher values. The total index of suppression and the total index of induction compared with the control group were, respectively, ↓ TIS = 1.01 and ↑TII = 1.02 values. It can be concluded that after rational therapy was carried out in children, patients with psoriasis with moderate form, there was a positive change in the immune status, expressed as an increase in CD3 +, CD4 +, CD8 +, a decrease in the number of CD20 +, IRI, CD16 +. At the same time, the indices of CD8 + and IRI were within the control values. In children with a moderate form of the disease, after the traditional therapy was carried out, there was an increase in the overall level of CD3 +, CD20 +, CD4 +

and CD8 + and a decrease in IRI and CD16 + cells as compared to before treatment.

In the severe form of psoriasis, after traditional therapy, an increase in the total number of T-lymphocytes (CD3 +), subpopulations of CD4 + and CD8 +, a decrease in the total number of B-lymphocytes (CD20 +) and the level of CD16 + was noted. Despite the positive dynamics, these indicators of the immune system in this group of patients differed from normal values. It should be noted that in these patients after rational therapy on the part of immunological parameters, normalization of indicators observed on the part of CD4 + + (33.64 ± 0.58 healthy, 33.74 ± 0.46 after treatment) and CD16 + (14.40 ± 0.12 healthy, 14.65 ± 0.36 after treatment). At the same time, the total induction index was within the limits ↓ TII = 1.00 and ↓TII = 1.01 values. The total number of CD3 + T-lymphocytes, the level of CD8 + content tended to increase, the total number of B-lymphocytes (CD20 +) tended to decrease, however, these values remained higher than those of the control group.

Thus, in severe psoriasis disease in children after the therapy, it was observed increase of CD3 +, CD4 + subpopulations and CD8 +, decrease CD20 +, CD16 +. After rational therapy from CD4 + and CD16 +, normalization of indicators was noted. However, this downward trend has slowed down, and this again confirms the focal depth of organ damage in this age group.

Conclusions. In preschool children with psoriasis, there is a decrease in the total number of T-lymphocytes (CD3 +), T-helper cells (CD4 +), T-suppressors (CD8 +), and an increase in B-lymphocytes (CD20 +), CD16 + natural killer cells and immunoregulatory index. After therapy, an increase in the level of CD3 +, CD20 +, CD4 + and CD8 + immunoregulatory lymphocyte subpopulations is noted. At the same time, the inclusion of immunomodulating therapy contributes to the normalization to the control values of the indices CD4 + + and CD8 + of immunoregulatory lymphocyte subpopulations.

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Babajanov Akhmadjon Sultanbaevich,
Ph D., in Medicine,
associate professor, Head of the department
of surgical diseases of the Samarkand Medical Institute
E-mail: xirurg.kas@mail.ru

Akhmedov Adham Ibadullaevich,
assistant of the Department of Surgical Diseases,
Samarkand Medical Institute
E-mail: xirurg.kas@mail.ru

Toirov Abdukhamid Suvonkulovich,
assistant of the Department of Surgical Diseases,
Samarkand Medical Institute
E-mail: xirurg.kas@mail.ru

Akhmedov Gayrat Keldibekovich,
assistant of the Department of Surgical Diseases,
Samarkand Medical Institute
E-mail: xirurg.kas@mail.ru

Hudoynazarov Utkir Rabbimovich,
assistant of the Department of Surgical Diseases,
Samarkand Medical Institute

THE STATES OF THE THYROID RESIDUE IN THE POSTOPERATIVE PERIOD IN PATIENTS WITH MULTINODAL NONTOXIC GOITER

Abstract: In order to study the state of residual thyroid tissue in the postoperative period with a multinodal non-toxic goiter, 86 patients aged 24–61 years were examined. It was revealed that in the patients with the multinodal colloid non-toxic goiter within 6 months after the different volume of operations in the thyroid remnant, three types of structural changes are revealed according to ultrasound (stable – 51.2%, hypertrophic –26.7%, hypotrophic –22.1%).

Keywords: residual thyroid tissue, multinodular nontoxic goiter, hemithyroidectomy, subtotal resection.

Introduction. Recently, there has been a significant increase in the interest of practicing physicians in the problems of thyroid diseases (thyroid gland) [1; 2; 4; 5]. The problems of diagnosis, treatment tactics and indications for surgery with various nosological forms of thyroid involvement are far from the final solution and are constantly discussed. Problems of goiter remain very relevant in connection with the virtually all the territory iodine deficiency and other ecologically unfavorable factors [1; 3; 8].

The choice of therapeutic tactics in the nodular formations of the thyroid gland, despite the seeming simplicity, is one of the most complex problems, and even for certain nosological forms it is ambiguous [2; 3; 6]. With any nodular formation of the thyroid gland, a malignant process can occur, which in turn presupposes an operation. However, it should not be generally accepted and used in all patients with nodules [4; 7].

In connection with this, the morphofunctional changes in the so-called " thyroid remainder" [1; 5; 6], which have not been sufficiently studied so far, are of considerable interest. Determination of the structural and functional dynamics of the thyroid residue after subtotal subfascial resection of the thyroid gland will allow to control the risk and evaluate the clinical significance of relapses, and also to analyze the adequacy of the choice of the volume of the primary operation.

Objective: Dynamic study of the function of residual thyroid tissue in the postoperative period in patients with multinodular non-toxic goiter.

Material and Methods: We observed 86 patients with multinodal non-toxic goiter operated in the 1st surgical department of SamSMI, between 2014 and 2017. The age of the patients ranged from 24–61 years. In the postoperative period, according to the results of instrumental and morphological studies, patients were divided into 2 groups: 1 group consisted of 49(57%) patients who underwent hemithyroidectomy. 2 group consisted of 37(43%) patients, subtotal subfascial-strumectomy was performed.

All patients were examined according to the standard: biochemical blood tests were performed, thyroid hormone levels in the blood, ECG, ultrasound of the thyroid gland and histological examination were determined. To some according to the indications of echocardiography and MRI of the cervical region.

Ultrasound of the thyroid gland was performed by all patients in the dynamics before and after the operation period according to the standard procedure with the use of ultrasound devices ALOKA SSD-3500 SX.

Results of the study. In patients of the first group who underwent hemithyroidectomy, at a time of 3 months, the volume of the preserved intact fraction by ultrasound was 8.5 ± 0.5 cm^3. In terms of 3 to 6 months, 18(36.7%) of them showed an increase in volume by 1.2_ + 0.4 cm^3. In another 23(46.9%) cases, the size of the thyroid remains remained stable, in 8(16.4%) cases the hypothrophy of the thyroid residue was revealed. In the second group, after subtotal subfascial strumectomy, the volume of the thyroid residue was 5.4 ± 0.6 cm^3. With ultrasound for 3 to 6 months in 21(56.7%) patients, he remained stable. In 11(29.8%) cases, the tissue volume of the gland remnant decreased to the dimensions of 3.12–3.96 cm^3. 5(13.5%) of them showed an increase in volume by 1.4 ± 0.4 cm^3. (Table 1).

Table 1.– Characterization of the volume of the thyroid residue in the postoperative period at 3 and 6 months

Type of operation	Volume of thyroid residue in 3 months (cm^3)	Volume of thyroid residue in 6 months (cm^3)
After hemithireidectomy (1 group)	8.2 ± 0, 5	9.7 ± 0.5
After subtotal resection of the thyroid gland (2nd group)	5.4 ± 0.6	7.2 ± 0.6

Thus, after various resections in the volume of the thyroid gland with ultrasound for 6 months, three variants of the "behavior" of the thyroid residue were identified, which we arbitrarily termed hypertrophic, hypotrophic and stable (Table 2).

Table 2.– Variations in the volume of the thyroid residue at 6 months

Group of patients	Dynamics of the thyroid residue			Total
	Hypertrophy	Hypotrophy	Stable condition	
Hemithyroidectomy	18 (36.7%)	8 (16.4%)	23 (46.9%)	49
Subtotal subfascial strumectomy	5 (13.5%)	11 (29.8%)	21 (56.7%)	37
Total	23 (26.7%)	19 (22.1%)	44 (51.2%)	86

A stable variant was detected in 51.2% of cases, hypertrophic in 26.7% and hypotrophic in 22.1%.

Thus, the greatest increase in the volume of residual thyroid tissue of the residue is noted against the background of irregularity of thyroid hormones. As you know, an elevated level of TSH is a potent stimulator of proliferative processes in the thyroid.

In the postoperative period, the main indicators of the effectiveness of surgical treatment are: the frequency of recurrence of diseases and postoperative hypothyroidism. In our study, relapse of nodular goiter was detected in 2 cases (2.3%) at 3 years of follow-up, and developed in the 1-group (after hemithyroidectomy). In all cases, the recurrence of nodular goiter developed against a background of postoperative hypothyroidism, which confirms the correct choice of organ -preserving volumes of primary operations that preserve the necessary part of thyroid tissue.

The main manifestations of an operating trauma are edema of all structures in the surgical intervention zone, the presence of a hematoma that hinders the visualization of the thyroid remnant. Reduction of edema begins after 3 months, and more actively, with the improvement of differentiation of anatomical formations in the area of surgical intervention, against the background of ongoing rehabilitation measures, complete elimination of it occurs in a month. Objective evaluation of the thyroid remnant is advisable to be carried out 3 months after the operation.

Conclusions

1. In the postoperative period within 6 months in patients with a multinodal non-toxic goiter, after different volumes of operations in the thyroidremnant, three types of volumetric structural changes are revealed according to ultrasound (stable – 51.2%, hypertrophic – 26.7%, hypotrophic – 22,1%). 2. When performing organ-saving operations for multinodular goiter, in the postoperative period, iodine preparations should be prescribed, in large-volume operations, thyroid preparations should be prescribed without waiting for hypothyroidism. 3. Compliance with the principle of organ-preserving surgeries will avoid gross violations from the function of the thyroid gland, including other changes in the body.

4. In the postoperative period, patients should be observed in an endocrinologist or surgeon-endocrinologist, undergo dynamic monitoring of ultrasound and hormonal status, and, if necessary, receive hormone replacement therapy.

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Babadzhanova F. A.,
senior lecturer, the Department of
Pharmacology and Normal physiology
Tashkent Pediatric Medical Institute, Tashkent
Pazilova S. B.,
assistant, the Department of Pharmacology
and Normal physiology
Tashkent Pediatric Medical Institute, Tashkent
E-mail: cool.lolo@mail.ru

TO THE ISSUE OF NUTRITION IN THE ASPECT OF PHYSIOLOGY

Abstract: Digestion as an external link of the functional nutrition system that links the external environment with the internal environment of the body and corrects homeostasis of biologically active substances, mineral composition, therefore, our work reflects nutrition aspects based on literary analysis.

Keywords: function, disorders, nutrition, population.

Public health is not only a medical concept, but a largely social, sociopolitical and economic category. In the last decades of the 20th century, the world community began to realize and rethink the crucial importance of the problem of nutrition of the population.

The development of the territories of the European North sets the task of a demographic nature – maintaining the health of the population with a long active life and reproduction of healthy offspring.

Experts noted that digestion as an external link in a functional nutritional system that communicates the external environment with the internal environment of the body and corrects homeostasis of biologically active substances, mineral composition, and the body trophism.

It has a high lability under the action on the body of various extreme environmental factors, including social and stressful nature.

Foreign and domestic authors noted that the regulation of the motor activity of the gastrointestinal tract (GIT), an active part belongs to the triple alliance: the vagus nerves, sympathetic nerves, spinal parasympathetic nervous system. In the spinal ganglia of the thoracic spinal cord is the representation of receptors of the gastrointestinal tract.

Based on the classical theory of digestion, a balanced nutrition theory was formed. It considers food consumption as a way to maintain the constancy of the molecular composition in the body, where energy and plastic (construction) costs are reimbursed due to new food intakes. The theory of balanced nutrition has established a set of vital nutrients and to determine the quantitative needs for proteins, fats, carbohydrates, vitamins, salts, etc. It allows you to adapt nutrition to the physiological characteristics of the body, to physical exertion, climatic and other conditions.

Functional systems are dynamic self-regulating organizations, the activities of all whose components contribute to obtaining adaptive results that are vital for the body.

Useful adaptive results include, for example, the internal constants of the organism, homeostasis indicators, which determine its normal vital activity. This is the body's content of nutrients, salts, water, oxygen, carbon dioxide, blood pressure, temperature, etc.

Since there are many useful adaptive results in the body that provide various aspects of its metabolism, the whole organism is built from the cumulative activity of many functional systems.

Any decrease in the nutrient content in the body through the primary stimulation of the chemoreceptors of the gastrointestinal tract, blood vessels and tissues through the nervous and humoral pathways leads to the excitation of the corresponding parts of the hypothalamic region. Nervous arousal comes from the receptors of the digestive tract, especially the stomach, as food is evacuated from it. Blood that is deprived of nutrients ("fasting blood") acts as a humoral stimulus, which acts reflexively, stimulating the receptors of the vascular bed and directly on special lateral hypothalamus chemoreceptors.

Then substances that, at today's level of knowledge, appear to be neutral, and also toxic substances – permanent and inevitable satellites of natural nutrition. It was the presence of toxic flow that gave rise to the recently popular idea of suppressing intestinal flora. However, in reality, apparently, the flow of toxic substances, if it does not exceed certain limits, is physiological (that is, it does not interfere with physiological processes, it is harmless). As a result of bacterial metabolism, hormones and biologically active substances are also formed.

Dietary fibers play a significant role in normalizing the activity of the gastrointestinal tract, as they ensure the forma-

tion of jelly-like structures, which in turn affects gastric emptying, absorption rate in the small intestine and transit time (passage) of food through the digestive canal. Dietary fibers are able to absorb bile acids and, thus, affect their distribution along the gastrointestinal tract, and this, in turn, significantly affects various aspects of cholesterol metabolism in the body as a whole. Finally, food fibers affect the habitat of bacteria in the intestines and are one of their sources. Dietary fiber is necessary for normal functioning not only of the digestive system, but also of the organism as a whole. The relationship between the widespread in the developed countries of the so-called refined diets and cholesterol metabolism, the formation of gallstones has been demonstrated.

According to most experts, errors in the structure of nutrition, and in particular the consumption of refined products have become one of the reasons for the development of many serious diseases in humans. Atherosclerosis, hypertension, diabetes and a number of other diseases are the result of not only excessive consumption of protein or carbohydrates, but also insufficient use of dietary fiber. There is evidence that the lack of dietary fiber in the diet can provoke colon cancer.

Many forms of the pathology of the gastrointestinal tract and metabolism are preventable and treatable by introducing dietary fiber into the diet. These fibers are able to alter the absorption of glucose, so they can be used for the prevention and treatment of diabetes, hypoglycemia, and obesity. Plant fibers have an anti-toxic effect.

Summing up the literature analysis, it can be emphasized that the energy and molecular approach is important from the point of view of not only the classical, but also the new theory of adequate nutrition. At the same time, the technology of food processing in the body is also extremely important for the day of the new theory. From here comes the immutable conclusion that nutrition should be not only balanced, but also adequate, that is, appropriate to the capabilities of the organism, the natural mechanisms of assimilation of food.

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Bazarova Zarina Zafarovna,
resident graduate, Department of Obstetrics and Gynecology
Samarkand State Medical Institute
E-mail: zarina.bazarova.1992@mail.ru

Sobirova Sayyora Ergashevna,
candidate of medical sciences,
Samarkand State Medical Institute
assistant of the Department of Obstetrics and Gynecology

Todjiyeva Nigina Iskandarovna,
assistant of the Department of Obstetrics and Gynecology
Samarkand State Medical Institute

Xudayarova Dildora Raximovna,
doctor of medical sciences, Head of the Department
of Obstetrics and Gynecology
Samarkand State Medical Institute

QUALITY OF LIFE OF WOMEN UNDERGOING OBSTETRIC HYSTERECTOMY

Abstract: The issues of the long-term effects of surgical menopause remain little studied, since the long-term after surgery in most cases women develop a kind of pathological symptom complex, leading to a significant reduction in their quality of life.

Keywords: quality of life, surgical menopause, obstetric complications, postpartum hemorrhage.

The relevance of research: The consequences of the removal of the uterus in recent years have been actively discussed in the literature [6, 252]. Of particular interest are data on the development of the so-called post-hysterectomy condition in women at reproductive age after hysterectomy, with or without preservation of ovarian tissue [7, 28–33]. In the literature there is no consensus about the reasons for its appearance. According to some authors, the posthysterectomy condition while preserving the ovaries is due to the intersection of the ovarian branches of the uterine arteries during the operation, which reduces the blood supply to the ovaries, leading to a decrease in steroidogenesis and the formation of hypoestrogenism [1, 860–9]. Others believe that the removal of the uterus has a damaging effect on the hypothalamic-pituitary system, leading to a decrease in the level of compensatory processes in a woman's body [4, 3829–38]. It is believed that the uterus as a target organ naturally affects the neuroendocrine regulation of ovarian function through a central mechanism, or local regulation [2, 109–50]. In this regard, the preservation of the uterus with various obstetric complications remains an urgent and debatable problem. Questions about the health status of women who have undergone various obstetric complications are actively discussed in modern literature. One of the leading places among obstetric complications belongs bleeding. Bleeding is the leading cause of maternal mortality in the world; they kill 127.000 women annually, accounting for 25% of all maternal deaths. The tendency to reduce the frequency of this complication is not observed. The evolution of therapies for postpartum hemorrhage suggests that the most common mistake in the treatment of obstetric hemorrhages is a delay with the operation of hysterectomy [5, 1–17]. Serov V. N. (2008) recommends that in cases of massive obstetric hemorrhages, the operation should be carried out in 3 stages: in the first stage, an urgent celiac section is performed on the background of infusion-transfusion therapy, temporary hemostasis; at the second stage, surgical manipulations are stopped, intensive therapy is continued until hypovolemia is reduced, and blood coagulation is improved; in the third stage of the operation, the uterus is extirpated. The same recommendations are given in the Clinical guidelines for the management of patients with bleeding during labor and the postpartum period, Ministry of Health of the Republic of Uzbekistan. And despite the fact that some authors today hysterectomy and amputation of the uterus to stop bleeding is called "operation of despair", when other ways of preserving a woman's life have already shown their futility, hysterectomy for many ordinary obstetric institutions that do not own modern technological capabilities remains a life saving operation for patients with bleeding [3, 1236–12].

Purpose of the study: To study the quality of life of women undergoing obstetric hysterectomy at reproductive

age; analyze the risk factors that led to the need to remove the uterus at this age.

Material and research methods: We carried out a retrospective analysis of 63 stories of childbirth of women, which due to various obstetric complications made hysterectomy, for the period from 2013 to 2017. This work was carried out in the maternity complex of the clinic SamMI number 1, the regional Perinatal Center and the maternity complex number 2 of the city of Samarkand. The following were studied: social level, history, the presence of extragenital diseases, pregnancy, type of delivery, complications of childbirth, the amount of blood loss, the amount of surgical intervention, the postoperative and postnatal period; Objective and clinical laboratory data on discharge and recommendations. Questionnaires for assessing the quality of life – SF36, PISQ, and a questionnaire to identify signs of vegetative changes – were used to assess the quality of life of female patients.

Results and discussion: When analyzing the age composition of puerperas, all 63 patients included in the study were in active reproductive age – from 20 to 37 years. The average age was 27.8 ± 1.6 years. Housewives predominated in the social structure (71.4%), the remaining 28.6% were students and office workers. The residents of the city were 35(55.6%), and the rural area was 28(44.4%). Analysis of the menstrual function showed that the average age of menarche was 13.2 ± 1.4 years, which corresponds to that in the population. The duration of the menstrual cycle ranged from 25 to 35 days. Menstrual bleeding lasted from 3 to 7 days. When analyzing the reproductive function, attention is drawn to the fact of a large number of pregnancies, childbirth, abortions and miscarriages in the examined women. Infertility suffered 4 women (6.3%) of the main group. But at the same time, 10(15.9%) patients were first-pregnant and primiparous.

The study of anamnestic data showed that 10(15.9%) patients used hormonal contraception, 22(34.9%) patients received intrauterine contraception, and in 6 of them the intrauterine device was in the uterus for more than 3 years; barrier contraception was used by 7(11.1%) patients. The remaining 24(38%) patients did not use any means, or were protected by interrupted sexual intercourse, of which 4(6.3%) were not protected due to primary and secondary infertility.

In the structure of extragenital diseases, iron deficiency anemia occupies the leading place – 76.2%, in the second place, diseases of the urogenital system – 22.2%, in third place, diseases of the cardiovascular system – 9.5%, etc.

In the structure of concomitant genital pathology, inflammatory diseases of the uterus and appendages (19%), second place are vaginosis and vaginitis (17.5%) and third place of the uterus and cervical ectopia (7.9%).

According to our data, the risk factor in patients under study should be referred to – high parity – in 29(46%), multiple pregnancy in 8(12.7%), scar on the uterus after cesarean section – in 25(39.7%), large size of the fetus – in 12(19%), uterine myoma – in 4(6.3%). Weakness of labor activity and excessive strong labor activity was a risk factor for bleeding in 6(9.5%) patients.

According to the method of delivery in the majority of patients – 65% – the pregnancy ended in timely delivery, but 20 (31.7%) deliveries were premature, which is almost the second higher than in the population. Delayed delivery occurred in 2 (3.2%) patients, in 88.9% of patients, delivery ended with a cesarean section, and only 11.1% through the birth canal.

In our study, in a planned manner, the operation was performed in 25(39.7%) women, in an emergency – in 31(49.2%) women. In 9 (14.3%) fetus weight was more than 4000 g. Indications for 25 planned operations were: in 14 (56%) – uterine scar after cesarean section inferior according to ultrasound, in 2(8%) – multiple pregnancy, 6(10.7%) – eclampsia and severe pre-eclampsia, 3(5.4%) – large fruit. The main indications for emergency operative delivery were weakness of labor activity – in 3(9.7%), threatening uterine rupture of the scar in 6(19.4%) patients, placenta previa – 3(4.8%), and in 2 patients there was a combination of placenta previa with a scar on the uterus after cesarean section.

The volume of blood loss in patients was determined by the gravidary method. In assessing the response of the body to massive blood loss were taken during attention such clinical signs as: blood pressure, peripheral vein tone, skin color and conjunctiva, the presence of dyspnea, a decrease hourly diuresis, symptom of collapse or shock. The degree of blood loss was determined by the classification of Shifman E. M.: I degree – blood loss 650–1000 ml, II degree – 1001–1500 ml, III degree – 1501–2000 ml, IV degree – 2001 ml and more. I–II degree of blood loss was determined in 11(17.5%) patients, III degree – in 30(47.6%), IV – in 22(34.9%).

The postoperative period in 7(11.1%) women was complicated by postoperative wound suppuration and suture mismatch, in three women (4.8%) postoperative focal pneumonia developed and in one – deep vein thrombophlebitis of the lower extremities.

All women were recommended supervision in the women's consultation at the place of residence. The analysis of the quality of life of women after hysterectomy was carried out by us by interviewing them during personal contact using a specially designed questionnaire.

According to the results of testing, it was revealed that 57% of women had their first complaints in the first 6 months after surgery. The main complaints were: a sharp decrease in physical activity, a feeling of anxiety or nervousness, a dull, depressive

state, weakening of memory, as well as pain in the lower abdomen and back. Among those surveyed by doctors of medical institutions, no one sought medical help. 32% of respondents were engaged in self-medication, by using sedatives, as well as drugs made from medicinal plants (valerian, motherwort).

In 27% of women, the first complaints after surgery appeared within 1 year. They complained mainly of a decrease in physical activity, a feeling of anxiety and depression, a weakening of memory and a sleep disorder. Among this group, 10% of women took sedative herbal preparations and antidepressants.

During the second year after hysterectomy, the first complaints appeared in 17% of women. The most pronounced symptoms were nervousness and anxiety, weakening of memory, sleep disturbance, changes in the function of urination in the form of pollakiuria. Of these, 18% of women engaged in self-treatment.

Conclusion: Of the 63 women who underwent hysterectomy at reproductive age, 35(57%) women had their first complaints during the first 6 months, 17(27%) women had their first year, and 11(17%) women had their first complaints during the second years after surgery. All women had a decrease in physical activity, anxiety and depression. Over 44% of women reported memory loss and sleep disturbance. Symptoms of night and daytime pollakiuria were observed in 17% of women. The general condition of women was assessed as satisfactory. Thus, studies of the quality of life of women undergoing hysterectomy at reproductive age have shown that they need a long and adequate rehabilitation, in a rational selection of hormone replacement therapy to improve the quality of life.

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Nazirov Feruz Gafurovich,
director of "Republican Specialized Scientific-Practical Medical Center of Surgery named after acad. V. Vakhidov" academician of the Academy of Sciences of the Republic of Uzbekistan, Government company "RSSPMCS named after acad. V. Vakhidov" G.C.

Abdumadzhidov Hamidulla Amanullaevich,
Ph.D., DS. Head of the Department of cardio Surgery "RSSPMCS named after acad. V. Vakhidov" G.C.

Akbarov Mirschavkat Miralimovich,
doctor of medical sciences, prof., Head of the Department of cardio Surgery "RSSPMCS named after acad. V. Vakhidov" G.C.

Buranov Khairulla Zhumabaevich,
Ph.D., Head of Department of Cardiosurgery of "RSSPMCS named after acad. V. Vakhidov" G.C.

Tursunov Nasritdin Toshevich,
Head of the Department of Thoracic Surgery of "RSSPMCS named after acad. V. Vakhidov" G.C.
E-mail: cs.75@mail.ru

SURGICAL TREATMENT OF COMBINED ECHINOCOCCOSIS OF HEART AND TARGET ORGANS (LUNGS, LIVER)

Abstract: In the article was reviewed results of diagnostic methods and surgical treatment of 33 patients with hydatid cyst of heart. Basic diagnostic technique was echocardiogram and Magnetic Resonance Imaging (MRI). Postoperative lethality was 9,06%. Spontaneous perforation and anaphylactic shock were observed in 6% cases. Among not fatal complication there often were observed heart rhythm disturbance.

Keywords: hydatid cyst, echinococcosis of heart, cardiopulmonary bypass, surgical treatment.

Introduction: Hydatid cyst of the heart is rare, amounting to only 2.0% of all localizations of this zooanthroponosis [1; 4; 6; 8; 10; 11]. Despite certain advances in the medical and surgical treatment of heart hydatid cyst, it is still remains a serious medical and social problem. A small number of works on the surgery of heart hydatid cyst attract attention [1–3, 10]. In the endemic areas there is a rather "high" frequency of patients with heart echinococcosis. The small number of publications and clinical observations on the diagnosis and surgical treatment indicates a lack of awareness of clinicians about the diagnostic features and the possibilities of surgical treatment. There is no consensus in the literature regarding the tactics of surgical treatment of heart hydatid cyst. The issues of simultaneous surgical interventions in combined hepatocardial and cardiopulmonary hydatid cyst remain "open". A number of researchers consider, that it's necessary to perform simultaneous operations in hydatid cyst of the pericardium and lungs, justifying their point of view by the location of parasitic cysts in one anatomical cavity.

Accordingly, the aim of study was to analyze and evaluate the results of surgical treatment of patients with combined hydatid cyst of heart and target organs (lungs or liver).

Material and methods: of investigation. In the center of surgery for the period from 1986 to 2017 in 33 patients was diagnosed combined hydatid cyst of the heart/ pericardium and target organs (lungs, liver). All these patients underwent surgical treatment. The age of the patients ranged from 7 to 64 years, an average of 26.7 ± 2.7years. The men were 15(48.2%) and women-16(51.7%). Diagnosis of parasitic heart disease concluded by means of chest radiography, transthoracic (TT) and transesophageal (TE) echocardiography (EchoCG), multislice spiral computed tomography (MSCT), and coronary angiography.

Surgical intervention in 11 cases (35.8%) was carried out on pump (75.0 ± 7.6 min) and cardioplegia (45.3 ± 4.9 min) from sternal access. In 20(64.5%) cases with hydatid cyst of the pericardium or combination with lungs, interventions performed off pump by thoracotomy access.

On pump operations included a standard connection to the circulation device (according to the aorta-vena cava scheme) and antegrade pharmaco-cold cardioplegia. After asystole, a hydatid cyst was lined with a gauze pad, puncture of the cyst cavity was performed in the most convex non-vascular part. Then, its contents were removed by external suction; then cystectomy were performed.

The residual cavity was treated with 30% solution of the sodium chloride or 80–100% solution of the glycerol. If possible, partial pericystectomy was performed. The region of cystectomy was sewn with a double-suture seam with a filament 2/0 – the first row with U-shaped seams on the gaskets, the second row with a continuous suture seam. Cysts from the interventricular septum (IS) were removed from right atrial access. In this case, after puncture and aspiration of the contents of the cyst by an "external" suction, the cavity of the cyst was opened and performed the cystectomy, the cavity was treated with anti-scleric drugs and the cavity was left widely "open" to right ventricular cavity for constant "irrigation" of the parasite cavity with blood.

In 6(19.3%) cases, hydatid cyst of heart was combined with parasitic damage of liver. Simultaneous-sequential cystectomy was performed in 4 patients. In this cases performed on pump echinococcectomy from the heart, and then from the liver through the upper-median laparotomy with the capitonage of the cyst bed. In 2 patients, was performed staged tactics, such as, first of all cystectomy from the heart, and then, after normalization of the general condition of patients after 2–3 weeks the next stages of the operation (from the liver). The postoperative period of patients with combined hydatid cyst of the heart and liver was relatively smooth.

In 5 (8.9%) cases performed concomitant cystectomy from the heart and the lungs. The simultaneous tactics of surgical treatment used successfully. In 20 (35.7%) cases, we observed combined lesions of the pericardium and lungs. In all of this patients were successfully operated off pump by thoracotomy, simultaneously from the lung and pericardium. Cysts of the pericardium in most cases were located extrapericardially. In another one patient, additionally to pulmonectomy (due to multifocal recurrent lung lesions) performed cystectomy from the pericardium.

In 2(3.5%) cases, there was a multifocal lesion of the heart, pericardium, lungs and mediastinum. In the process of sternotomy a clinical picture of anaphylactic shock was observed, which led to a lethal outcome. The autopsy confirmed multifocality of parasitic lesion of the thoracic organs with perforation of cysts in the heart cavity.

In the postoperative period, all patients underwent three courses of anthelmintic chemotherapy with the use of mebendazole or albendazole (10–15 mg/kg per day) with monthly intervals under the control of blood tests [1; 2; 13; 15; 16].

Results. The total postoperative mortality among observed patients were 9.06% (3 patients). In one of them, the cause of the fatality was iatrogenic damage to the anterior descending artery during removal of the parasitic cyst of the interventricular septum.

Perforation is a fatal complication, which was observed in 2(6%) patients at the stage of sternotomy. Both patients experienced perforation of the right heart tense cyst in the right ventricular cavity with the development of severe anaphylactic shock leading to a fatal outcome.

Relapse of the disease for 5 years was not detected. In the postoperative period, anthelmintic therapy was performed according to the recommendations.

Among the non-fatal complications, the most frequently encountered ventricular arrhythmias, which was noted in 6(18.1%). Heart failure in 5(15.1%) patients and one of them had pneumopathy. The abdominal and pleural complications have not been revealed.

The volume and functional parameters of the heart were not changed. There was no accumulation of fluid or suppuration of the residual cavity. Dynamical changes showed a decrease in the residual cavity.

Discussion. Echinococcosis of the heart is a rare parasitic lesion whose frequency of occurrence, according to different authors, does not exceed 2% [1; 3; 6; 13; 14]. More often observed in young people, mostly male [2; 5; 11]. In our study group, the average age of patients is 26.7 ± 2.7 years, which again indicates the high incidence among young people.

In the world literature there are data that patients with echinococcosis of the heart are hospitalized in hospitals with a clinic for coronary blood flow disturbances [1; 4; 10]. In our study, in 22.7% of cases in the preoperative period, myocardial ischemia was detected on the ECG, the signs of which disappeared after the operation. According to the literature, in 7–15% of cases, spontaneous perforation of the cyst into the cavity of the pericardium or into the heart cavity is observed with the development of anaphylactic shock [2; 13; 17]. Some authors describe cases of perforation of cysts during cardiopulmonary resuscitation. In our study, 2(6.4%) patients died due to perforation of echinococcal cysts in the heart cavity at the stages of sternotomy.

A special place in the intravital diagnosis of heart echinococcosis is with echocardiography [8; 9; 15]. We consider it advisable to conduct transesophageal EchoCG and MSCT for all patients, which allows not only to detect cystic heart formation, but also to detail topographic location, cyst size and relationship with coronary vessels [9, 14–16]. The literature describes the case of a multi-chamber echinococcosis of the heart simulating a picture of the polycystic myxoma of the left atrium. Only intraoperatively the authors managed

to establish a clinical diagnosis: echinococcosis of the heart [12]. Echocardiography also plays an important role in postoperative monitoring of patients and for the timely diagnosis of relapse of illness [8; 9].

Echinococcosis of the heart is an intracardiac infection, the treatment of which is carried out according to all the rules of purulent-septic surgery. These operations required the development of a new optimal surgical tactic, since an ideal cystectomy involving the complete removal of a cyst with a fibrous capsule is unacceptable in heart surgery. According to the world literature, surgical treatment is the method of choice for heart echinococcosis [3; 4; 6; 11; 14; 16].

When choosing surgical tactics, a number of authors prefer operations on the "working" heart from thoracotomy access, especially with pericardial echinococcosis [2]. Carrying out the operation on the "beating" heart, to remove the echinococcal cyst is associated with a number of complications, such as dissemination of the contents of the cyst, the possibility of accidentally taking nearby coronary vessels into the suture during the cardiac cycle, the perforation of the body during the treatment of the parasite bed, risk of aeroemboli and also non-radical removal with a high risk of recurrence of the disease.

When analyzing the literature, it is established that one in six patients dies from bleeding during surgical treatment, especially if the latter is not performed on pump. Therefore, some authors, fearing the occurrence of a number of complications (bleeding, rupture of the myocardium, etc.), consider it expedient to perform cystectomy from the heart in conditions of IR and KP [3, 4, 6, 11, 12, 14, 16]. We also consider it expedient and justified to fulfill the EE under conditions of infrared and KP on an "immobilized" heart.

Concerning the number of cystectomy from the heart, it should be noted that the experience of a single team of authors does not exceed 2–3 observations. In this respect, only a few authors, such as Shevchenko Yu.L. (2006), Bouraoui H. et al. (2005), Orhan G. et al (2008), Kabbani S. S. et al. (2007) have experience of cystectomy from the heart in 5–19 patients. The largest clinical material is the experience of Thameur H. et al. (2001) from Tunisia, who described 45 patients with heart echinococcosis.

Unfortunately, there is no single point of view regarding the tactics of surgical treatment of the combined echinococcosis of the heart and target organs. So, many sources report the phased removal of echinococcal cysts first from the target organ, after a short period of time – from the heart. In contrast, Kabbani S. S. et al. (2007) in their 8 observations the first stage of cystectomy was performed from the heart, after 3–6 months from the liver or lungs.

The current level of development of cardioanesthesiology and cardiac surgery allows for successful simultaneous operations. According to N. O. Travin [2], simultaneous operations of the hydatid cyst of the pericardium and lungs are possible, because the cysts are in one anatomical cavity. The results of our studies indicate that simultaneous operation is suitable, even when the parasitic cyst is located simultaneously in different anatomical cavities (thoracic and abdominal). Hospital lethality after surgical treatment ranges from 5 to 20%.

Conclusions

Transthoracic echocardiography is a screening method for diagnosing hydatid cyst of the heart.

Surgical treatment is the method of choice for heart hydatid cyst.

It is advisable to fill the echinococcectomy from the heart in conditions of artificial circulation and cardioplegia.

In case of hepatocardial, cardiopulmonary and pericardial pulmonary hydatid cyst, one-stage – sequential echinococcectomy is possible.

Perforation of the echinococcal cyst is a fatal complication.

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Gaybiyev Akmal,
assistant professor, of Department of Neurology and Neurosurgery
Samarkand State Medical Institute
Djurabekova Aziza,
professor, Samarkand State Medical Institute,
Head of Department of Neurology and Neurosurger
Utaganova Guljahon,
assistant professor of Department
of Neurology and Neurosurgery
Samarkand State Medical Institute
Igamova Saodat,
assistant professor of Department
of Neurology and Neurosurgery
Samarkand State Medical Institute
E-mail: saodat_igamova@mail.ru

MODERN METHODS OF DIAGNOSTICS OF POLYNEUROPATHY

Abstract: This article describes the methods of diagnosis for polyneuropathy of small fibers, sensitive disorders and disorders of the autonomic nervous system prevail. In the study, 35 children with an increased incidence of anti-ganglioside antibodies GM1 IgM, GD1b IgG and HLA IgG in children with polyneuropathy were examined. The results of the study showed that this method of investigation is a differential diagnosis.

Keywords: polyneuropathy of small fibers, dysesthesia, anti-ganglioside antibodies, hyperalgesia.

Relevance. In most cases, with polyneuropathies (PNP), nerve fibers of all sizes are involved in the pathological process, but in some cases the lesion is limited primarily to either large or small fibers. With PNP, mainly small nerve fibers are affected, which is manifested by such symptoms as decreased sensitivity to needle pricks, temperature sensitivity in the presence of dysesthesia in the form of painful burning, a disorder of the autonomic nervous system.

The motor strength, balance and tendon reflexes are relatively well preserved. The main indications for the detection of anti-ganglioside antibodies are Guillain-Barre syndrome, including Miller-Fisher syndrome, multifocal motor neuropathy, sensory neuropathy. According to the literature, antibodies to monosialoganglioside GM1 IgM are associated with multifocal motor neuropathy with a frequency of occurrence of 40–70% [1; 2; 3]. In addition, an elevated antibody titer to monosialoganglioside GM1 is found in patients with Ginein-Barre syndrome in 22–30% of cases.

The titre correlates with the activity of the disease. In the acute phase, the titer increases to maximum values and decreases during the course of the disease [4]. Antibodies to dsialoganglioside GD1b IgG are described in rare cases in patients with sensory neuropathy [5]. However, this process is not fully understood.

The purpose of the study was to study the diagnostic criteria of polyneuropathy.

Materials and methods. Two groups of patients were examined. The first group consisted of 20 patients with acute diseases of the peripheral nervous system. 15 patients were allocated to the control group. The kit contains strips used for blotting, which are covered with parallel strips of highly purified antigens. In the first stage of the reaction, the strips are incubated with a sample of the diluted serum or plasma of the patient. In case the sample is positive, specific antibodies of classes IgM and IgG will bind to the corresponding antigenic bands. To detect bound antibodies, a second incubation is carried out using an enzyme conjugate (antibodies to human IgG, labeled with alkaline phosphatase), which is capable of causing the development of a color reaction.

Table 1.– The frequency of detection of antineuronal anti-ganglioside antibodies in the examined patients in two groups

Groups examined	GM1	GD1b	HLA
Patients with acute PNS diseases (I group, n = 20)	18	16	14
Control group (group II, n = 15)	1	0	0

The results of the study showed that in the group of patients with acute peripheral nervous system (PNS) diseases we detected a higher incidence of antineuronal anti-ganglioside antibodies GM1 IgM, GD1b IgG and HLA IgG – 85.7%, 84.3% and 68.3% respectively Table 1, 2). It was also found that at least one type of antibody is present in 94.3% of patients in Group I (Table 2).

The rates of detection of antineuronal anti-ganglioside antibodies GM1 IgM, GD1b IgG, HLA IgG or at least one type of antibodies in the first group significantly differed both from the parameters of the second group (Table 3).

The increased detection rate of antineuronal anti-ganglioside antibodies GM1 IgM, GD1b IgG, HLA IgG, or at least one type of antibody in the group of patients with acute peripheral nervous system diseases proves the high diagnostic significance of qualitative determination of the invitro antibodies IgM and IgG classes to seven gangliosides: GM1, GD1b, HLA in the serum and plasma of patients with acute diseases of the peripheral nervous system. According to the literature [6; 7; 8] antibodies to monosialoganglioside GM1 IgM are associated with multifocal motor neuropathy with a frequency of occurrence of 40–70%. In addition, elevated titers of antibodies to monosialoganglioside GM1 IgM are found in patients with Ginein-Barre syndrome in 22–30% of cases.

Table 2. – Frequency of detection (in%) of the most common antineuronal anti-ganglioside antibodies in the examined patients

Groups examined	GM1 IgM	GD1b IgG	HLA	At least 1 type of antybodies
I group (n=20)	85.7	84.3	68.3	94.3
II group (n=15)	5.0	7.0	5.5	6.0

Table 3.

Type of antybodies		I group (n =20)	II group (n = 15)
GM1 IgM	I group	P = 0.048	P = 0.09
	II group		P = 0.48
GD1b IgG	I group	P = 0.036	P = 0.004
	II group		P = 0.35
At least 1 type of antybodies	I group	P = 0.088	P = 0.01
	II group		P = 0.18

As can be seen from (Table 3), according to our data, the frequency of occurrence of the same antibody in patients with acute diseases of the peripheral nervous system is 25.7%. Antibodies to disi-angloglioside GD1b IgG are described in patients with sensory neuropathy. In the group of patients with acute diseases of the peripheral nervous system, the frequency of occurrence of this antibody 34.3% has significant differences with the incidence of antibodies to dysialoglanglioside GD1b IgG 10.0% in group II (P = 0.036). antibodies with Guillain-Barre syndrome.

Conclusions. Thus, we detected an increased occurrence of antibodies GM1 IgM, GD1b IgG and HLA IgG in patients with polyneuropathy, which can serve as a new diagnostic criterion for this autoimmune disease, which proves its genetic predisposition.

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Gafurov Bakhtiyor Gafurovich,
head of the department of neurology, professor,
Tashkent Institute of Postgraduate Medical Education
Alikulova Nigora Abdukadirovna,
associate professor
Rakhmatova Sanobar Nizomovna,
base doctoral
E-mail: nilu74@list.ru

CORRELATIONS BETWEEN COGNITIVE AND LOCOMOTORS DISORDERS IN MEN AND WOMEN WITH CHRONIC CEREBRAL ISCHEMIA

Abstract: The aim of the research was to study the internal correlation links between locomotor and cognitive disorders in men and women suffering with moderate cognitive impairment of vascular genesis. A total of 96 patients (50 men and 46 women) were examined with the MMSE, Frontal Assessment Battery and Tinetti tests. It has been established that global control of locomotor functions is more characteristic of the group of men, while non-verbal control is more characteristic of the group of women.

Keywords: chronic cerebral ischemia, sex, psychology.

Until recently, the factor of sex was not given special significance in the diagnosis and treatment of many diseases, including neurological ones. Research into the effects of new drugs has often been conducted only on male volunteers, and the characteristics of their impact on the female body have been overlooked [1]. In many publications there were no indications of sex of the research subjects, in others women were intentionally excluded for reasons of the "purity of experiment" [2]. However, practice has shown that some diseases are more common among men, while others are more common among women [3; 4].

The severity of the course of disease, its outcome, and response to treatment also depend on sex of the patient in many cases [5].

A real boom in the study of the problem of sex-related differences began about 10 years ago, after the widespread introduction of magnetic resonance imaging into practice, when morphological differences in the brain were found in men and women. Physicians, scientists, psychologists and sociologists presented a general picture, indicating a clear sexual differentiation [6]. There are few studies, however, on this problem in neurological diseases.

It is known that there are initial particularities of cognitive and psychological functions in men and women. The psychological profile of men and women is different. Accordingly, there are behavioral differences between males and females. These differences lead to the fact that men and women differently perceive the same impact and respond to the same situation [3; 4]. This is also true for neurology. The general pattern is that a higher level of anxiety and depression is found in various diseases in women [7; 9].

From the point of view of the problem of sexual dimorphism, chronic cerebral ischemia (CCI) is of particular interest. It is known that with CCI it develops the so-called "triad of frontal dysfunction" (TFD), which includes cognitive, locomotor and emotional disorders (depression). Clinical signs of TFD are interrelated, and the mechanisms of vascular and degenerative brain damage, mainly frontal lobes and their connections with deep structures of the brain, play a role in their genesis. Given the numerous morphofunctional differences in the brain between men and women, it can be assumed that the structure within the TFD has its sex-related peculiarities in CCI. This is important both in terms of further understanding of the differences between male and female brains, and for developing differentiated approaches to the treatment of CCI, depending on sex. This problem remains completely undeveloped.

Our *goal* in the presented study was to analyze the relationship between the nature of cognitive impairment, imbalance and gait abnormalities in patients with CCI in the aspect of sexual dimorphism.

Material and methods. A total of 96 patients with CCI were examined on a background of cerebral atherosclerosis, which were divided into a male group (50 patients) and a female group (46 patients). The groups were comparable in age (average age 66.4 years), and all the patients had mild cognitive impairment. They were evaluated using MMSE scales and Frontal Assessment Battery (FAB). Motor abnormalities were assessed using the Tinetti test. The obtained data were processed using mathematical cross-correlation analysis. Statistical differences between the groups were assessed with the Wilcoxon test.

The averaged results for the applied tests are presented in the Table below, from which it can be seen that there are significant differences between men and women with CCI. First of all, noticeable is the presence of reliable differences between the sexes across all three scales with greater preservation of cognitive and locomotor functions in female subjects. Against this background, some features of the results were revealed when comparing by subtests within the used tests. In particular, subtests "balance" of the Tinetti test and "nonverbal functions" in the MMSE test did not reveal any significant differences. With the exception of these differences, in general, unidirectional changes in both sexes were revealed for the locomotor and cognitive functions in CCI.

Table 1.– Data of tests of cognitive and locomotor disorders in CCI in men and women

Tests	Whole group	M	F	R≤ (M: F)
Tinetti:				
– overall score	19.45	17.5	21.4	0.05
– balance	11.6	10.4	12.8	–
– gait	7.85	7.1	8.6	0.05
FAB	13.45	12.9	14.0	0.01
MMSE:				
– overall score		25.1	26.9	0.01
– verbal functions	26.0	5.1	7.0	0.05
– nonverbal functions	6.05	20.0	19.9	–

Very informative data were obtained when studying the structure of correlation relationships between the studied indicators in persons of different sexes. These data are presented in the Figure below, from which it can be seen that there are significant differences between the sexes. The arrows indicate statistically reliable positive correlation links.

As can be seen from the figure, in the general group of patients with CCI, the present positive reliable correlation links are quite logical. In particular, there is a close correlation between the overall indicators of the MMSE test, the Tinetti test, and the FAB test. In addition, there are positive correlation links between the verbal and non-verbal subtests of the MMSE test and between the gait and balance indicators in the Tinetti test. Positive correlations between the verbal component of the MMSE test and the gait indicators of the Tinetti test, and between the gait indicators of Tinetti and FAB tests were also revealed.

The analysis within the subgroups depending on sex showed significant differences in the structure of correlation links. Common to both groups, men and women, there was a positive correlation between the overall score of the MMSE test and the FAB test, but at the same time there are differences, which are characterized by the fact that, firstly, the structure of internal correlation links in the group of men is significantly poorer in number in comparison with the group of women and, secondly, there is a difference in the nature of the connections between the studied tests and their subtests. The difference is in the positive correlation between the Tinetti test and the verbal component of the MMSE test, as well as between the subtest of balance within the Tinetti test and the verbal component of the MMSE test in the group of men. In addition, a positive correlation was established between the Tinetti test and the FAB test indicators. In the female group correlation links are more diverse. In particular, noticeable is a positive correlation between the verbal component of the MMSE test and the FAB test. Besides, non-verbal functions in the MMSE test positively correlate with indicators of both gait and balance. Also revealed was a close positive correlation between the balance score and the overall score of the FAB test.

Thus, with CCI, cognitive and locomotor disorders have some differences in the groups of men and women. In general, taking into account the revealed correlation links, it can be said that with CCI disturbances in balance, cognitive impairment, and the entire locomotor dynamics are closely interrelated. At the same time, in the male group there is a closer connection of locomotor disorders with the verbal component of the MMSE test, whereas in the female group closer links come to form around the non-verbal component of the MMSE test, i.e. nonverbal functions are more closely related to locomotor functions.

Based on the obtained data, it can be concluded that during the formation of the main symptoms of CCI the intersystem dissociation in the group of men and women exists already at the very beginning. With all that said, global control of locomotor functions is more characteristic of the group of men, whereas non-verbal control is more characteristic of the group of women.

The presented data should be taken into account when choosing both medication and non-pharmacological approaches to the correction of cognitive and motor impairment in CCI, depending on sex.

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Daminova Kh. M.,
associate professor at the Department
of Neurology T. M. A. Tashkent city
Zhumaniyozov N. B.,
master of the Department of Pediatric Infectious Diseases
Tashkent Pediatric Medical Institute, Tashkent city
Daminova M. N.,
associate professor at the Department
of Pediatric Infectious Diseases,
Tashkent Pediatric Medical Institute, Tashkent city
Jalilov A. A.,
associate professor at the Department of Ambulatory Medicine
Tashkent Pediatric Medical Institute, Tashkent city

THE PREVALENCE OF TUBERCULOSIS IN PATIENTS WITH HIV INFECTION

Abstract: Tuberculosis is a disease that takes a lot of people's lives, and especially if it manifests itself in patients with HIV infection and therefore aspects of this problem are revealed in our work based on a literature review.

Keywords: infections, complications, mortality, mycobacterium, children, population.

Tuberculosis remains the most significant infectious disease in the third millennium, taking the first place among the causes of death.

As the statistics show, by 2020, out of 68 million deaths, 11.9 million will be caused by respiratory diseases: 1) 4.7 million for COPD; 2) 2.5 million – pneumonia; 3) 2.4 million – tuberculosis; 4) 2.3 million – lung cancer.

Tuberculosis, which has been a number of controlled infections for several decades, is now becoming a threat on a global scale: more than a third of the world's population is infected with Mycobacterium tuberculosis (MBT), about 9 million people die of tuberculosis every year, and 1.4 million people die of this infection.

The current period is characterized by a worsening situation for tuberculosis in the country with a significant increase in the incidence and mortality rates from tuberculosis, and the weighting of the clinical and social structure of newly diagnosed patients with tuberculosis. One of the factors that require a significant correction of the global tuberculosis control strategy is drug resistance of the causative agent.

According to the WHO, in 2011, 8.7 million cases of tuberculosis were found, equal in the world to 125 cases per 100,000 population.

Of these, 59% in Asia, 26% in Africa.

In 2011, 1.4 million people died from tuberculosis, among them 500,000 were women.

Worldwide, in 2011, 630.000 cases of MDR-TB were detected, in the range of 460.000–790.000. Among them, the number of patients with pulmonary tuberculosis was 310.000.

As the authors of the literature note, tuberculosis remains an important national problem in the world, despite the complex of large-scale anti-tuberculosis measures being carried out, the epidemiological situation of tuberculosis remains tense. The current epidemiological situation in many countries, including Uzbekistan, is characterized by a deterioration in the main indicators for tuberculosis (morbidity, mortality, disability).

An analysis of the literature showed that in the early 1990s, the first reports appeared about the worsening epidemiological situation of tuberculosis in the world, especially in places where the negative impact of environmental and socio-economic factors was great and the level of anti-tuberculosis measures was reduced.

Clinicians described types of resistance differ in their prevalence and severity. It is known that the frequency of primary drug resistance is lower, the structure is more favorable (resistance is more often to 1–2 drugs), and the minimum inhibitory concentrations of drugs are lower than with secondary resistance.

There is no doubt the relationship of both types of resistance. Thus, the presence of primary drug resistance in some cases is a prerequisite for the emergence of secondary resistance to more anti-tuberculosis drugs.

At the same time, the high prevalence of secondary drug resistance causes the population to become infected with resistant strains with the further development of primary resistant tuberculosis.

In addition, in the study of resection material, so-called latent drug resistance was described, when resistance to a larger number of drugs was found in the cavity than in sputum.

The contingent of newly diagnosed patients with tuberculosis is characterized by resistance, comorbidities and adverse factors, which leads to a lack of effectiveness of treatment.

The development of resistance of mycobacterium tuberculosis to anti-tuberculosis drugs is a special case of the development of drug resistance and is observed for all currently known anti-tuberculosis drugs.

Among the reasons explaining this process, the leading role is played by the presence of a significant reservoir of tuberculosis infection, a significant number of patients who secrete multi-resistant forms of mycobacterium tuberculosis.

Domestic authors claim that the weakening of the work of the fluorographic service contributed to the late detection of tuberculosis and the formation of a significant reservoir of tuberculosis infection. Every third patient with tuberculosis secretes mycobacteria and is dangerous for others, every fifth patient with tuberculosis becomes disabled.

Tuberculosis often affects the most efficient age of the population and causes economic damage to society.

According to Danilova I. D. the age from 18 to 34 years old accounts for almost half (47.6%) of all newly infected women and 34.2% of newly infected men, that is, compared with men, women are more likely.

Among the factors contributing to the progression of the process, insufficiently effective treatment, an important role is played by concomitant diseases, i.e. they aggravate the course of tuberculosis and cause its unfavorable dynamics

Currently in the world there are two epidemics that are interconnected with each other. The development of tuberculosis, which has been the main cause of human mortality for a millennium, is fueled by the epidemic of HIV infection, and on a global scale tuberculosis is one of the main causes of death in HIV-infected people and people with AIDS.

As the authors of the literature note, that in the context of the AIDS epidemic, an increase in the incidence of tuberculosis is a global national security problem in most countries. Despite the development of effective methods for treating tuberculosis, this infection remains one of the leading causes of morbidity and mortality in the world. Approximately 1/3 of the human population is infected with mycobacteria tuberculosis (MBT) and 5–10% of them develop active tuberculosis during life. Every year the frequency of tuberculosis in the world increases by 0.4%.

The main reasons for this situation are the HIV / AIDS pandemic and the rapid increase in the number of antibiotic-resistant strains of the causative agent of tuberculosis. In no country with a severe HIV situation, it is not possible to successfully control the situation with tuberculosis.

It has been established by the authors of the literature that the risk of progression from infection with tuberculosis to the development of a clinically expressed disease increases when combined with HIV infection from 6 to 26 times in different countries with different epidemiological conditions. A direct correlation has been revealed between the increase in the number of cases of tuberculosis and HIV infection, as well as the number of patients with these mixed infections. The situation is exacerbated by the fact that both infections are characterized by the proximity of risk groups: these are young people under 30 years old who are not working, use intravenous drugs, who often served time in prison (MJIC) and were in contact with tuberculosis patients.

HIV-infected individuals are at increased risk of acquiring primary tuberculosis and reactivating their latent tuberculosis infection that previously existed.

The authors noted that the low life expectancy of HIV – infected patients suffering from tuberculosis is due to the late diagnosis of the pathological process. The difficulties that arise in detecting tuberculosis are due to the great similarity of the clinical manifestations of AIDS and tuberculosis. The issues of chemoprophylaxis of tuberculosis in HIV-infected people, including primarily the indications for it, evaluation of its effectiveness, remain unresolved.

Summing up the literary analysis, it can be noted that it is necessary to look for ways to improve the efficiency of early diagnosis and prevention of tuberculosis in HIV-infected patients.

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Dergunova Galina Evgenievna,
Tashkent Pediatric Medical Institute
E-mail: mbshakur@mail.ru

PECULIARITIES OF CLINICAL SYMPTOMATICS OF NONREVMATIC CARDITIS IN CHILDREN OF PRESCHOOL AGE ON THE BACKGROUND OF RESPIRATORY DISEASES

Abstract: The article describes the features of the development of myocarditis among 88 children aged 1–7 years with myocarditis. On the basis of clinical and laboratory data revealed that contribute to the development of carditis virus, viral and bacterial infections, chronic foci of infection, allergy. Children 1–3 years carditis develops in the early stages, in the acute phase of infection, occurs in moderate and severe forms. Children 4–7 years revealed signs of carditis 15–20 days later after a previous infection, occurs in moderate and mild forms. Therapy, clinical supervision promote rehabilitation of children, prevent chronization carditis.

Keywords: myocarditis at children; diagnostics; therapy.

Diseases of myocardium non-rheumatic genesis are one of the most common pathologies of the heart in children. Infectious diseases are the most common pathology of childhood, against which the cardiovascular system is involved in the pathological process. Approximately 1–5% of patients with acute viral infection may have myocardial damage [2; 4; 5]. Almost all known infections can cause myocarditis. Most often, carditis develops in a viral, viral and bacterial, rather than monoinfectious process, there are allergic carditis (drug, serum, vaccine-free), toxic (with diphtheria), toxic-allergic, carditis with progressive muscular dystrophies, diffuse diseases of the connective tissue (collagenosis), as a result of myocardial damage by physical, chemical and biological agents and, finally, a large group of idiopathic carditis [1; 3]. Clinical manifestations of the disease, in general, are not specific. Manifestations of myocarditis can vary from mild forms without signs of heart failure to the clinical picture of severe circulatory failure, complex arrhythmias and conduction disorders [4].

Objective: the clinical features of non-rheumatic carditis in preschool children, depending on age.

Material and research methods. The study included 88 children aged 1 to 7 years who were diagnosed with non-rheumatic carditis. In the group of observed young children (1–3 years old) there were 48, adolescent children (3–7 years old) – 40 people, the observation was carried out over 2 years.

For the diagnosis of myocarditis, the criteria proposed by NYHA (New York Heart Association, 1973) were used, where large criteria were highlighted (infection, signs of disease within 10 days after it, congestive heart failure, cardiogenic shock, complete AV blockade, changes on ECG, increased activity of myocardial enzymes) and small criteria (laboratory confirmation of a viral disease suffered, tachycardia, weakening of the first tone, canter rhythm, results of a subendomyocardial biopsy s). The history and combination of two large or one large plus two small criteria are sufficient for establishing the diagnosis.

Results. In infants, in 8(16.5%) cases, myocarditis was diagnosed upon admission to hospital with a diagnosis of acute respiratory disease, acute pneumonia against the background of acute manifestations of the underlying disease, in 30(62.5%) children myocardial lesions were diagnosed through 10–14 days in the period of convalescence after acute respiratory illness, in 10(21%) children – 15–20 days after the illness.

In adolescent children, the diagnosis of myocarditis in 30 (75%) cases was diagnosed after the illness after 15–20 days, in 9 (22.5%) after the cases 20–30 days after the illness, only in 1 case (2.5%) myocardial damage was diagnosed in the period of acute respiratory disease.

36 children (41%) were diagnosed with chronic foci of infection (chronic tonsillitis, sinusitis, caries), of whom 10(21%) were under the age of 3 years old, and the remaining 26(65%) were between the ages of 3 and 6 years old.

Clinical manifestations of the disease, in general, are not specific. Children become lethargic, restless, moaning at night, decreased appetite, sometimes nausea and vomiting. Often there is an obsessive cough, aggravated by changing the position of the body. Join cyanosis, shortness of breath.

The borders of the heart in acute diffuse carditis in most cases are extended moderately. Apical impulse weakened. During auscultation, there is a muffled or deafness of tone I at the apex; moreover, the larger the heart is, the wilder the tone is. II tone above the pulmonary artery is enhanced. The canter rhythm is often heard with cardiomegaly. Systolic murmur is not typical, it is heard in half of the children with acute carditis, and is functional. Rhythm disturbance in the form of tachycardia, less often bradycardia. Manifestations of myocarditis can vary from mild forms without signs of heart failure

to the clinical picture of severe circulatory failure, complex arrhythmias and conduction disorders.

In young children, non-rheumatic carditis occurred in 2(4%) cases in severe form, in the rest (46–96%) cases – moderately severe. In adolescent children, the majority of children (20–50%) had carditus of moderate form, 1(2.5%) of the child had a severe form, and 19(47.5%) children had a mild form.

ECG changes were characterized by changes in the ST segment and the T wave in standard or chest leads (V4–6), while in the course of the disease a certain dynamics was observed. In the first days of the disease, a decrease in the ST segment was observed with a simultaneous decrease in amplitude or flattening of the T wave (sometimes these changes quickly disappeared). From the 2nd, 3rd week of the disease, negative, often pointed T waves appeared. Later, the ECG changes gradually normalized, but sometimes persisted for several months. In 18(20%) children, extrasystoles were recorded (from single to bi- and trihymenias), which disappeared in the dynamics of treatment. In 8(9%) cases, a violation of intraventricular conduction was determined according to the type of incomplete blockade of the bundle of the His bundle. In case of suspected heart rhythm disturbances that were not recorded at rest, it was monitored daily.

When echocardiography revealed concomitant pericarditis in 4 patients, it is possible to conduct a differential diagnosis with similar diseases occurring (valve defects, cardiopathy, etc.).

Findings

1. In young children, non-rheumatic carditis develops earlier: in the acute period of the underlying disease or in the period of early convalescence, it occurs in moderate and severe forms with signs of heart failure.

2. In adolescent children, signs of heart damage are detected after 15–20 days, in some cases within 1 month after the illness and only in isolated cases in the acute period of respiratory illness, it occurs in moderate and mild forms.

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Djumanov K. N.,
Republican Specialized Scientific
and Practical Medical Center for Neurosurgery
Ministry of Health of the Republic of Uzbekistan, Tashkent
E-mail: kamal-72@mail.ru

SURGICAL TACTICS FOR VERTEBRO-MEDULLARY TUMORS

Abstract: The aim of the study was to improve the results of treatment of vertebro-medullary tumors based on the developed differential surgical tactics. 104 cases of surgical treatment of vertebromedullar tumors were analyzed. Out of these – 51(49.0%) meningitis, 19(18.2%) neurological and 11(10.5%) ependymal; metastases in the spine were in 23(22.1%) patients. Outcome: the choice of access for the removal of a benign tumor of the spine depends on what structures of the vertebra is affected: when the vertebral organs are injured, anterolateral access is made at the neck level; at the chest level – lateral paravertebral; at the level of the chest-lumbar junction – lateral paravertebral or posteromedial access is used.

Spondylosis and spine fixation are performed in case of impaired ability and**.**

Keywords: vertebra, spinal tumor, medullary tumors, surgical treatment, spine fusion**.**

Subject matter. The term "vertebro-medullary tumors" includes all neoplastic processes in the zone of the spine, such as: intramedullary, extramedullary (coming from the inner lines of the TMO, the dentata, the pial membrane, the intradural part of the spinal root), extradural tumors that are divided into primary -outgoing from the vertebra, periosteum, ligaments, cartilage, outer dura mater and secondary (metastatic). Primary spinal cord tumors among organic CNS diseases range from 1.98 to 3% [1; 3], among them extramedullary subdural neoplasms predominate, reaching, according to a number of authors 50–60% [2; 6; 11]. Secondary benign and malignant tumors growing into the vertebral canal, among all neoplasms of the skeleton, occur in 5–7%. According to US statistics, up to 18000 new cases of metastatic spine lesions are diagnosed annually [4; 8; 9]. T. E. Radomisli et al. (1996) claim that among all spinal tumors metastatic damage occurs in 96%, and only 1–4% are primary benign or malignant tumors.

The ratio of the frequency of occurrence of tumors of the spinal cord and brain tumors according to many authors is approximately from 1: 4 to 1: 6 [1; 5]. Among the primary tumors of the spinal cord, according to A. I. Pastushina (1983), extramedullary intradural tumors dominate, constitutes up to 70% of all spinal tumors. The results of the surgical treatment of primary spinal cord tumors depend on its timing, the radical nature of tumor removal, prevention of spinal cord trauma and the preservation of spinal column stability [8; 10], and all these aspects should be treated in complex [4; 8], but in general they are encouraging – according to a number of authors, positive results of treatment are observed in 60–96% of operated patients [2; 3; 9]. The main method of treating the spinal tumors is surgical. The aim is the decompression of the spinal cord, stabilization of the spine. However, the indications for certain surgical removal technologies based on the histological structure, localization and aggressiveness of the neoplasms have not yet been sufficiently developed (Fillipenko V. A., 1998; Tomita K., Toribatake Y., KawaharaN. et al., 1994; Boriani S., Biagini R., De Lure F. et al., 1998).

Currently, the results of surgery for spinal tumors are still unsatisfactory, and the therapy tactics and rehabilitation approaches in the postoperative period are far from perfect (Xu Q., Bao W., Mao R., Yang G., 1996). The high number of postoperative tumor recurrences and the level of disability of the patients makes it necessary to further study the problem, aimed at improving the results of treatment.

The purpose of research: To improve the results of treatment of vertebro-medullary tumors on the basis of the developed differentiated surgical tactics.

Materials and methods of research

The work is based on an analysis of the results of 104 surgical interventions in the Department of Spine and Spinal Cord Pathology of the Russian Scientific Neurosurgical Institute in patients with neoplasm of the cervical, thoracic, lumbar spine and spinal cord for the period from 2006 to 2016. 73 (73.4%) of them were men and 31 (26.6%) were women aged between 14 and 72. Of these, 51 (49.0%) meningioma, 19 (18.2%) neuron and 11 (10.5%) ependymomas; metastases in the spine – in 23 (22.1%) patients.

With the help of the diagnostic complex before the operation, it was possible to establish the localization of tumors with respect to the diameter of the spinal cord: the tumors had a dorsal location in 19 (18.2%), dorso-lateral in 18 (17.3%), lateral – 14 (13.4%), ventro-lateral in 17 (16.3%), ventral-in 15 (14.4%), and circular rotation of the caudal peduncle roots in 21 (20.2%) cases. All patients were divided into 5 groups

according to the degree of neurological disorders, according to the ASIA / IMSOP (American Spinal Injury Association / International Medical Society of Paraplegia) scale: 11 patients (10.5%) were assigned to group A, group B – 20 19.2%), the group C – 59 (56.8%), the group O – 6 (57.7%) and the group E – 8 (7.7%) patients.

Outcome and discussions.

Indication for surgical intervention in patients with primary spinal cord tumors was the presence of a tumor, compression of the spinal cord or its roots, the threat of a pathological fracture, a pathological fracture with loss of ability to support and the stability of the spine.

Dorsal tumors of the spinal cord, irrespective of their location along the spinal cord line, were removed by ante posterior access. Dorso-lateral tumors were removed by posterolateral access, depending on the size of the tumor, access was expanded by full laminectomy. Ventral-lateral and ventral tumors were removed by various accesses, the most attention was paid to the size of the tumor. At a giant size, when in the process of slow growth the tumor itself pushes the spinal cord rear or posterolateral approach was used; with a diagnosed tumor of small size (up to 1 cm in diameter and 2 cm in length), access depends on the level of the location of the tumor along the spinal cord: at the cervical level – it can be anterolateral access by Clovard; at the thoracic level – with lateral localization – posterior paravertebral approach.

For the removal of benign tumors, methods of marginal or broad excision of the tumor were used, as well as intra-tumoral excision, including curettage. The operation ended with spondylosis, if the ability to support the supporting structures of the spine and fixation in various ways was damaged. The histological structure of the tumor was established either by biopsy or suggested by characteristic spondylography or computed tomography; or after the operation, when the removed material was examined. All patients in the postoperative period were sent to the oncological dispensary.

As a result of surgical treatment of primary tumors of the spinal cord, an excellent and good result was obtained in 74.1%; satisfactory – in 17.3%; unsatisfactory – in 8.6% of patients.

Patients with a neurological deficit corresponding to group C on the ASIA / IMSOP scale were operated with the possibility of an accurate exit to the tumor structures of the vertebrae.

When analyzing the results in the group of patients with metastatic tumors of the vertebrae, it should be noted that the improvement occurred in patients who attempted to accurately access metastasis and marginal excision with subsequent spondylosis and fixation of the spine. Thus, out of 27 patients operated in connection with malignant and metastatic spinal tumors, the nearest excellent and good result of treatment was obtained in 15, which is 55.5%.

Findings:

1. The most informative methods for diagnosis of tumors of the spine and spinal cord by leading methods are contrast computer and magnetic resonance imaging (MRI)

2. Access to remove primary tumors of the spinal cord should provide an accurate access to the "target" of the operation. Posteromedial access is used in dorsal tumors, regardless of their location along the spinal cord, or in the ependymoma of the cauda equina. Posterolateral access is used for dorsolateral location of the tumor at any part of the spinal column; in a modification with expansion to incomplete laminectomy it is used for giant ventro-lageral tumors of any localization. Anterolateral parapharyngeal access at the level of the cervical vertebra should be used for small ventral tumors of the cervical spinal cord.

3. Indications for surgical treatment of tumors of the spine are compression of the spinal cord, persistent pain syndrome and the threat of a pathological vertebral fracture.

4. The choice of access for the removal of a benign spine tumor depends on what structures of the vertebrae are affected by it: when the vertebral bodies are injured, the anterolateral access is made at the cervical level; on the thoracic – lateral paravertebral; at the level of the chest-lumbar junction – lateral paravertebral or anteroposterior access. Spondylosis and fixation of the spine are performed when impaired ability and stability of the vertebral-motor segment are impaired. In the postoperative period, histologically sensitive tumors should be subjected to radiation or chemotherapy.

5. Operations for primary malignant and metastatic tumors of the spine are palliative, aimed at improving the quality of the patient's remaining life, aimed at suppressing the pain syndrome by decompression of the spinal cord and its roots and restoring the stability and ability to support the spinal column. In the postoperative period, according to the indications, it is necessary to carry out chemo- and (or) radiotherapy.

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Donscaia A.,
Chemencedji I.,
Antoci L.,
Cernat M.,
Mednicov L.,
Gherasim M.,
Institute of Oncology, Republic of Moldova
E-mail: donscaia53@mail.ru

IMMUNOHISTOCHEMISTRY (IHC) AS A MAIN TOOL IN TUMOR DIFFERENTIAL DIAGNOSIS

Abstract: The value of the immunohistochemistry (IHC) method used in the differential diagnosis of primary tumors and metastatic tumors with unknown primary was estimated. From 323 cases where IHC was performed, in 254 cases it was used for target therapy selection in breast cancer patients. GIST was confirmed in 73 cases. From 96 cases of various biopsy and surgical excision samples, 23 cases of retroperitoneal tumor masses were studied detail. In 12 cases, tumors were primary and in 11 cases, there were retroperitoneal lymphadenopathies with unknown primary. The value of certain monoclonal antibodies positivity for exact diagnosis was estimated. In conclusion, we consider that IHC is an important investigation method for the differential diagnosis of tumors with unknown origin.

Keywords: IHC, primary tumor, metastatic tumor, differential diagnosis.

Introduction

IHC technique is used in the search of cell or tissue antigens that range from amino acids and proteins to infectious agents and specific cellular populations [1].

IHC method has brought about a revolution in the identification of tumor tissue origin and remains a vital component of laboratory testing today. In the emerging era of personalized medicine, IHC continues to serve as a valuable tool, complementing and enhancing other molecular techniques. This method is a surrogate for traditional cytogenetic and in "situ" hybridization-based identification of chromosomal abnormalities, if not a viable molecular technique in its own right. In oncology, the method is used for diagnosis, as well as for prediction of therapeutic outcomes [2].

IHC is an important tool for scientific research – as a complementary technique for the diagnoses that are not determinable by traditional analyses (with hematoxylin and eosin) and for the optimization of treatment regimens through patient stratification based on prognostic factors [3].

Specific examples for IHC method use are cases with metastatic tumor samples of unknown primary. Using a panel of different antibodies that target tissue-specific proteins, one could find the primary site of the tumor, reason of great importance for treatment planning. Metastatic cancer with unknown primary is registered in 2–9% of primary detected tumors worldwide [4].

Greco F.A (2013) considered that using IHC method and gene-expression profiling would allow to determine tissue origin in metastatic cancer with unknown primary in about 90% cases [5].

Materials and methods

IHC is a powerful microscopy-based technique used for the visualization of cellular components, for instance proteins or other macromolecules in tissue samples. The tests are performed on formalin-fixed paraffin-embedded tissue blocks. Labeled polyclonal or monoclonal antibodies added to examined tissue react with tissue-specific antigens. The results of these reactions are determined by immunofluorescent, enzymatic or indirect methods (an unlabeled primary antibody reacts with the tissue antigen and a secondary labeled antibody is added to this complex).

In our study, IHC was performed in 423 cases, during last two years. The IHC method was used for determining tumor receptor status in patients with breast cancer and for the differential diagnosis in cases when traditional histopathology methods could not determine tumor origin of metastasis sample with unknown primary. The study is based on indirect method using monoclonal antibodies.

The following monoclonal antibodies were used: CD20, CD45, CD34, CD117, chromogranin A (ChgA), S-100, cytokeratin 20 (CK20), neuronal nonspecific enolase (NNE), melan-A, podoplanin (PDPN), desmin, vimentin. Proliferation state was determined by Ki-67 level, in GIST and breast cancer specimens.

Estrogen and progesterone receptors and HER-2 receptors were determined in patients with breast cancer (254

cases) in order to estimate disease prognosis and to decide target treatment. ICH is of great importance for such procedures.

In 73 cases suspect for GIST, positive reaction for CD34, CD117, S-100 and vimentin allowed to confirm the diagnosis.

In 96 cases, where classic histology methods could not determine the tumor origin, IHC led to definitive tumor diagnosis. These cases included biopsy and operative samples from tumors with many localizations: peripheral and retroperitoneal lymph nodes, retroperitoneal tumors, bone, lung and stomach biopsy samples. We studied in detail the results of IHC used in 23 cases of retroperitoneal lymphadenopathies and retroperitoneal tumors.

Results and discussion

The studied cases presented 11 retroperitoneal lymphadenopathies with unknown primary and 12 cases of retroperitoneal tumors of uncertain origin. The results of monoclonal antibodies tests that were used are presented in (table 1).

Table 1.

	NHL	Seminoma	Melanoma	Myosarcoma	NET	GIST
CD20	+	–	n/a	n/a	n/a	n/a
CD45	+	–	n/a	n/a	n/a	n/a
CD34	n/a	n/a	n/a	n/a	n/a	+
CD117	n/a	+	n/a	n/a	n/a	+
ChgA	n/a	n/a	n/a	n/a	+	n/a
S-100	n/a	n/a	n/a	n/a	n/a	+
CK20	n/a	n/a	n/a	n/a	n/a	n/a
NNE	n/a	+	n/a	n/a	n/a	n/a
Melan-A	n/a	n/a	+	n/a	n/a	n/a
PDPN	n/a	+	n/a	n/a	n/a	n/a
Desmin	n/a	n/a	n/a	+	n/a	n/a
Vimentin	n/a	n/a	n/a	+	n/a	+

In all 11 cases of retroperitoneal lymphadenopathies, IHC allowed to determine the origin of the primary tumor. In six cases, NHLB-lymphoma was confirmed by positive CD20 and CD45 and negative cytokeratin-20. In three cases, positive Melan A and negative cytokeratin-20 and CD45 allowed to establish the diagnosis of metastatic melanoma. In two cases podoplanin and CD117 antibodies positivity and CD45, CD20, desmin and NNE negativity were of great importance for determining metastatic seminoma.

From 12 cases of primary retroperitoneal tumors that were analyzed by IHC, five cases were sarcomas (negative to CD117, CD34 and positive to desmin and cytokeratin). Four cases of biopsy samples from massive tumors were positive to CD34, CD117 and S-100 so the diagnosis of GIST with retroperitoneal involvement was established.

In three cases only a test for chromogranin-A managed to confirm the neuroendocrine origin of the tumor, one of these cases being determined retrospectively, in a sample from a tumor excised in another hospital a year earlier.

The results obtained by IHC in tumor samples of uncertain origin gave us the possibility to establish an exact diagnosis in primary, as well as in metastatic retroperitoneal tumors with unknown primary.

Our data led us to the following conclusions:

1. IHC is a modern diagnostic method for identifying the tissue origin in primary tumors and metastatic tumors with unknown primary.

2. Hematological malignancies like B-cell NHL demonstrated positive results only for CD20 and CD45 antibodies.

3. Positive results for CD34, CD117, vimentin and S-100 antibodies are characteristic for GIST.

4. Chromogranin A test is of great importance in neuroendocrine tumor diagnosis.

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Dzhumanov B. A.,
Zufarova Sh.A.,
Tashkent Pediatric Medical Institute
E-mail: mbshakur@mail.ru

NFLUENCE OF THE LEVEL OF VITAMIN D ON THE FEATURES OF THE COURSE OF PRESENT PREGNANCY IN WOMEN

Abstract: This study was based on the survey data of 106 pregnant women, among whom the features of the course of this pregnancy in women with different levels of vitamin D were studied. Studies have shown that vitamin D levels corresponding to its deficiency in blood less than 20 ng/ml.

Keywords: vitamin D, pregnancy, outcomes.

Large-scale studies in recent years have revealed a link between vitamin D deficiency and the prevalence of a number of diseases. Particular attention is drawn to the study of the role of vitamin D in pregnancy. It has been shown that 1.25 (OH) 2D3 regulates the secretion and secretion of human chorionic gonadotropin in the syncyto-trophoblast [1] and increases the placental production of sex steroids [3]. It turned out that calcitriol promotes calcium transport to the placenta [2], stimulates the secretion of placental lactogen [4], and also regulates the expression of H0XA10 (gene determining the development of the genital organs) in human stromal endometrial cells [4]. The level of vitamin D in the serum of women in the third trimester of pregnancy is 2 times higher than that of non-pregnant women [1].

Vitamin D deficiency causes a number of adverse complications of pregnancy: hypertension and especially preeclampsia (PE) [1; 3], an increase in the incidence of cesarean section and spontaneous premature birth [4], the development of bacterial vaginosis in early pregnancy [2], gestational diabetes mellitus [1].

The results of studies examining the relationship between 25 (OH) D levels and the incidence of adverse pregnancy outcomes are not always unambiguous.

Objective: to study the features of the course of this pregnancy in women with different levels of vitamin D.

Materials and research methods: the study was based on the data of examinations of 106 pregnant women in the I–II trimester of gestation. The average age of women was 27.0 ± 2.5 years. The control group consisted of 30 pregnant women with a normal level of vitamin D.

For the diagnosis of vitamin D deficiency, a serum concentration of 25 (OH) D was determined. Vitamin D deficiency was defined as a decrease in the level of 25 (OH) D below 20 ng / ml, while vitamin D deficiency was in the range of 21–29 ng / ml.

In order to determine the effect of vitamin D on the course and outcome of pregnancy, the patient was divided into 3 groups depending on the level of vitamin D in the blood. The 1st subgroup included 46 pregnant women with vitamin D deficiency in the blood, which corresponds to the level of 25 (OH) D below 20 ng/ml, the 2nd subgroup – 30 pregnant women with insufficient levels of vitamin D in the blood, which corresponds to the level of 21–29 ng/ml and the 3rd group (control) included pregnant women with normal levels of vitamin D, over 30 ng/ml.

In order to assess the course of pregnancy in women with different levels of vitamin D, in addition to an objective examination during pregnancy, the determination of bacterial and viral infections was also carried out.

The results of the study and their discussion: considering the data on the possible effect of vitamin D on the course of pregnancy, we analyzed the relationship between the level of vitamin D in pregnant women and the factors influencing the course of gestation. In this connection, we evaluated the parity in the groups. We found no significant differences in the level of vitamin D in women depending on the number of pregnancies. The distribution of primigravidas and reobsbirths in the groups was not statistically significant ($p > 0.05$), which allows us to consider the women of the studied groups comparable.

A direct relationship is determined between the level of vitamin D and the likelihood of an infectious process ($RR = 1.2$; $p < 0.05$). Infectious load in pregnant women of the 1st group with vitamin D deficiency (< 20ng ml) is 1.2 times higher than that in patients of the 2nd group with vitamin D deficiency (< 30ng ml) and 2.8 times higher than the infectious load of pregnant women 3 s of the control group with physiological pregnancy ($RR = 2.78$; $p < 0.05$). It should be noted that in most cases in pregnant women of the 1st and 2nd groups, infection was associated with the presence of a mixed bacterial and viral infection: in 20(43%) pregnant women of the 1st group ($p < 0.05$) and 7(23%) pregnant women of group II ($p < 0.05$), in contrast to the control group.

Bacterial viral infection was characterized by the presence of Mycoplasma genitalium, Ureaplasma urealiticum.

Chlamydia trachomatis in cervical canal cells and CMV DNA, HSV type 1 and 2, EBV in the blood and cells of the cervical canal, as well as the presence of bacterial vaginosis and Candida albicans. Positive values of IgM in the blood of pregnant women were also attributed to the activation of a viral infection. At that time, as in the control group, only 9 (36%) pregnant women noted the presence of conditionally pathogenic flora.

We also conducted a study of vaginal microbiocenosis. The indicators of eubiosis were taken to contain lactobacilli not less than 7 lg CFU/g and the presence of conditionally pathogenic microflora (UPM) not more than 3–4 lg CFU/g.

In evaluating the microbiocenosis of the vagina, it was revealed that in all groups of pregnant women the microflora was not identical in its composition and was represented by both typical eubiotic bacteria and UPM. Analysis of the vaginal microflora showed that in the I group of pregnant women Staphylococcus aureus was seeded in 7.7% of cases (colonization intensity – 5.9 ± 0.8 lg CFU/g) ($p < 0.05$). Enterococci occurred in 16.7% of cases (colonization intensity – 3.7 ± ± 0.2 lg CFU/g). While in the 2nd subgroup of pregnant women, Staphylococcus aureus was seeded in 4.0% of cases with a colonization rate of 6.4 ± 0.6 lg CFU/g. Eubacteria occurred in 1.3% of cases with a colonization rate of 4.5 ± 0.2 lg CFU/g.

Thus, the total infection in the group of patients with vitamin D deficiency (group 1) was significantly ($p < 0.05$) higher than in group 2 and in healthy pregnant women (control group) ($p < 0.05$).

Of all pregnant women studied, 27(35.5%) were hospitalized. Of these, 12(15.8%) cases failed to preserve pregnancy due to ongoing therapy: in 7(9.2%) patients the pregnancy was interrupted by the type of non-developing pregnancy and in 5(6.6%) patients by the type of spontaneous abortion. These patients were removed residual ovum. The gestational age in such patients averaged 11.7 ± 3.5 weeks.

We have identified a clear dependence of the nature of the course of pregnancy on the level of vitamin D.

In women of the 1st group with vitamin D deficiency, abortion was significantly more frequent: in 11 (23.9%) patients compared to the 2nd group, where pregnancy was terminated only in one woman at 8 weeks gestation ($p < 0.05$). In the control group, all pregnancies progressed.

Thus, by the criterion of the odds ratio on the background of vitamin D deficiency in pregnant women, the chance of abortion is 9 times higher than in pregnant women with vitamin D deficiency in the blood (OR-9.11; $p < 0.05$).

The results of the analysis of the features of pregnancy showed that the frequency of pregnancy complications was 2 times higher in the 1st group in women with vitamin D deficiency compared with patients with vitamin D deficiency in the 2nd group ($p < 0.01$), and 6 times higher compared with the control group ($p < 0.01$).

Among the complications of pregnancy were: cervical insufficiency (ICN), gestational diabetes mellitus (GDM), gestational hypothyroidism, anemia of pregnant women, hypercoagulation, not corresponding to the period of gestation. Significantly more often in the 1st group were diagnosed: the threat of abortion in the first trimester, which occurred in 16 (35%; 16/46; $p < 0.05$) women, the threat of abortion in the second trimester was noted in 21(46%; 21/46; $p < 0.05$) patients, low placentation – in 20(43%; 20/46; $p < 0.05$) patients, retrochorial hematomas – in 8(17%; 8/46; $p < 0.05$) and ARD during the first half of pregnancy – in 16(35%; 16/46; $p < 0.05$) women.

During gestation in pregnant women of the 2nd group in all cases was less compared with the 1st group. The most significant complication was the threat of abortion ($p < 0.01$).

The correlation analysis revealed the presence of interrelations between the level of vitamin D and complications of pregnancy: the vitamin D values corresponding to the deficit had an inverse average relationship with the threat of abortion, the formation of retrochorial hematoma, the development of GDM, anemia of pregnant women, hypercoagulation during pregnancy ($t = 0.29$; $p = 0.001$).

Also, correlation analysis showed the presence of an inverse relatively strong correlation between the level of vitamin D and the acute respiratory disease during the first half of gestation ($t = 0.5$; $p < 0.05$).

Our data showed a high incidence of premature birth in the group of pregnant women with vitamin D deficiency ($p < 0.05$).

A correlation analysis revealed the presence of a relationship between vitamin D levels and pregnancy outcomes.

According to the results of the analysis, a direct relationship was found between vitamin D deficiency and timely delivery ($r = 0.3$; $p < 0.05$), as well as the feedback of low vitamin D levels with the risk of premature birth ($r = –0.26$; $p < 0,05$) and delivery by cesarean section ($m = –0.23$; $p < 0.05$).

Findings:

1. It is proved that the pathological course of pregnancy is more common in women with vitamin D deficiency ($p < 0.01$). In pregnant women with vitamin D deficiency, the risk of abortion was 9 times higher than in pregnant women with insufficient provision of vitamin D in the blood ($p < 0.05$).

2. The conducted correlation analysis revealed the presence of interrelations between the level of vitamin D and complications of pregnancy: the vitamin D values corresponding to the deficit had an inverse average relationship with the threat of abortion, the formation of retrochorial hematoma,

the development of GDM, anemia of pregnant women, hypercoagulation during pregnancy ($t = 0.29$; $p = 0.001$).

3. A direct relationship was found between vitamin D deficiency and timely delivery ($g = 0.3$; $p < 0.05$), as well as the feedback of low vitamin D levels with the risk of premature birth ($t = –0.26$; $p < 0.05$) and delivery by cesarean section ($t = –0.23$; $p < 0.05$).

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Iskandarova Shokhista Fekhruzovna,
doctor of pharmacy,
docent at the Faculty Training Qualification of Pharmacists
Tashkent Pharmaceutical Institute
Abdukhalilova Nilufar Sobirovna,
assistant of the department "Technology of medicinal forms"
Tashkent Pharmaceutical Institute

DETERMINATION OF THE AMOUNT OF CURCUMIN IN DRY EXTRACT OF TURMERIC (CURCUMA LONGA L.)

Abstract: This article presents the results of the development of the technology for obtaining the dry extract from Curcuma Longa L. A stepwise process for obtaining the dry extract using the technological scheme is described.

Keywords: Turmeric (Curcuma Longa L.), technology, dry extract, technological scheme.

Turmeric (Curcuma Longa L.) is a perennial herb of the ginger family. One of the main active components of Curcuma longa L. is curcumin – polyphenol, the main representative of the group of curcuminoids. Present the antitumor, antioxidant and anti-inflammatory activity of curcumin has been confirmed. The components of turmeric were allocated carbohydrates (4.7–8.2%), essential oils (2.44%), fatty acids (1.7–3.3%), curcuminoids (curcumin, demetoxicurcumin and bisdemetoxicurcumin), the content which is approximately 2%, although it can reach 2.5–5.0% of the dry weight, as well as other polypeptides, such as turmeric (0.1% dry extract).

Turmeric is a plant antimicrobial substance; it simultaneously improves digestion and facilitates normalizing intestinal flora. Owing to this fact, Turmeric serves as a good antimicrobial substance for weakened and chronic patients. This medicinal plant has an important prophylactic significance in the countries of tropical Asia, preventing spreading multiple intestinal infections.

Turmeric rhizomes are used for medical and food purposes. In order to speed up the ripening of spices, the collected roots are scalded with boiling water before drying, destroying the cells with the tincture curcumin. Curcumin, has essential oil cells, in the process of further fermentation soaked the entire root. At the same time, the starch contained in the root is partially hydrolyzed, and partly forms a colloid.

Immunomodulatory properties of curcumin have been established. Under the influence of this substance, the total number of leukocytes and antibody-forming cells increases, and the phagocytic activity of macrophages increases. In animal tests, curcumin has been shown to increase the body's antitumor activity.

Curcumin is an antagonist of Barbamil and chlorpromazine.

Based on the foregoing, the purpose of our research was to determine the quantitative content of curcuminoids in the dry extract obtained on this medicinal plant.

An analytical sample of the raw material was grounded to a particle size passing through a sieve with openings of 1 mm. About 1 g of (so-called) crushed raw materials were placed in a flask with a thin section with a capacity of 100 ml, 50 ml of 95% ethyl alcohol were added, added to the reflux condenser and heated in a boiling water bath for 30 minutes. Hot extraction sieved through cotton in a volumetric flask for the extraction. The extraction was repeated once more with 50 ml of 95% ethyl alcohol under the conditions described, filtering the extraction into the same volumetric flask. After cooling, the extraction volume was adjusted to the mark with 95% ethyl alcohol. 20 ml of the solution was chromatographed on a liquid chromatograph at least 3 times. After analyzing the extraction from the raw material, the column was washed with 20 ml of 100% acetonitrile. Then for 20 minutes was balanced by the mobile phase. After that, under the same conditions, a solution of a reliably known sample of curcuminoid (curcumin, dismetoxicurcumin, bisdismetoxicurcumin) was chromatographed. Then, the areas of each peak were determined. The results obtained for each injection were averaged.

The total content of curcuminoids was calculated by algebraic addition of the obtained results for three individual substances or in terms of the total area of 3 peaks per curcumin, proposed as CO.

As a result, it was possible to choose the optimal conditions for chromatographic separation of the main curcuminoids: Column Phenomenex Luna 5 μm C18(2) 100 Å, 250× × 3 mm, system: acetonitrile – 0.03 M phosphate buffer with pH 3.0 1: 1, flow rate 0.5 ml / min; detection at 425 nm (maximum absorption of all dominant curcuminoids). The figures below show the research results:

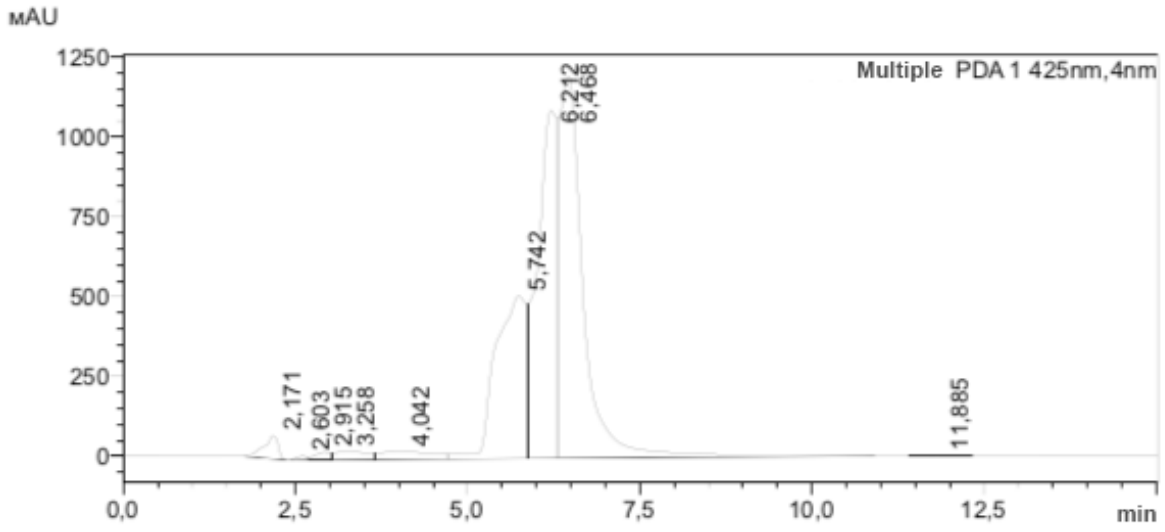

Figure 1.

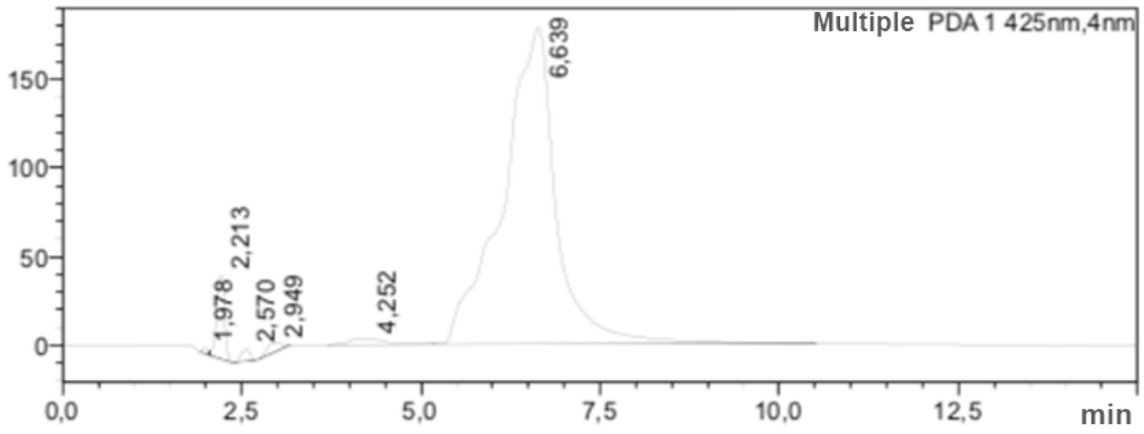

Figure 2.

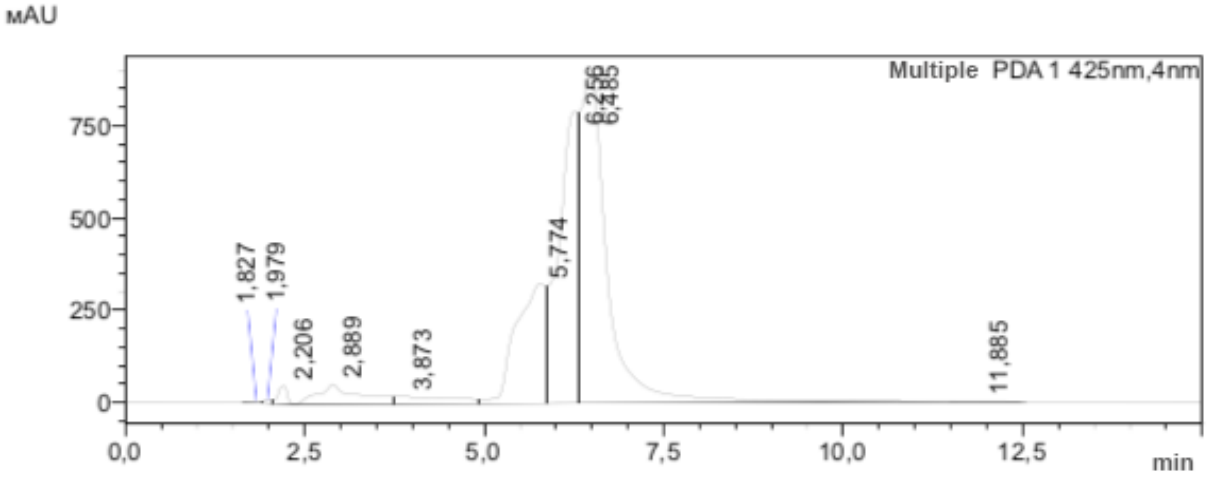

Figure 3.

Conclusions: It was established that in the obtained dry extract, based on a long Turmeric, the content of curcumin was 9.8%.

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Kalandarov Dilmurod Madaminovich,
candidate of medical sciences, associate professor,
Head of the Department of General Practitioner – 2
Mirzakarimova Dildora Bakhodirovna,
candidate of medical sciences, associate professor,
Head of the Department of Infectious Diseases
Primkulova Gulbahor Nazirjanovna,
assistant of the Department of Propedeutics of Internal Diseases
Khudoyarova Nazokatxon Kakharovna,
senior teacher of the Department of General Practitioner – 2
Zhuraboev Bakhtierzhon,
candidate of medical sciences, General Practitioner – 2
Andijan State Medical Institute Uzbekistan. City of Andijan
E-mail: isaidbek@bk.ru

THE STATE OF MICROCIRCULATION IN HYPERTENSION

Abstract: This review discusses the development of hypertension at the level of pathophysiology. We concider violations of the capillary blood circulation, which have am important and basic role in the occurrence of hypertension.

Keywords: hypertension, microcirculation disorder, capillary circulation.

It is impossible to objectively assess the state of hemodynamics as a whole without a thorough study of microcirculatory changes, based only on the characteristics of large and medium caliber vessels. In recent years, the problem of microcirculation, in particular changes in the vessels of the microvasculature against the background of hypertension, has attracted the attention of many researchers and clinicians. The value of the capillary channel for the circulatory system is difficult to overestimate, because it is on the capillary level that the main metabolic processes occur, the effectiveness of which ensures the maintenance of homeostasis of all organs and body systems [5, 12]. Another major task of the microcirculatory bed (MCR) is the prevention of excessive hydrostatic pressure drops, which adversely affect capillary exchange. Resistive vessels – arterioles and venules in the pre- and postcapillary regions of the vascular bed, respectively – provide a regional distribution of cardiac output [12; 13]. It is known that in most forms of hypertension, the total peripheral vascular resistance (PVR) is increased [5]. This is especially characteristic of the late stages (steady state), when the cardiac output is usually not changed, and the increase in blood pressure is determined mainly by increased vascular resistance. The presence of a direct relationship between vascular resistance and the level of blood pressure, as was shown in the works of V. Folkow, can be explained by the Laplace law (pressure is equal to the ratio of voltage to radius) [15; 13]. Research results G. W. Schmidt-Schonbeinetal. clearly demonstrated that a decrease in the diameter of arteriols by 13% leads to an increase in blood pressure of 48–50 mm Hg. st. under conditions of constant blood current [17]. The key factors contributing to the formation of increased resistance in GB are the number and diameter of actively functioning microvessels, the viscosity of the blood flowing through them, as well as the overall length and geometry of the microvascular network [19]. In the pathological process involved all these links. Conventionally, there are three variants of morphofunctional changes in the vessels of the microvasculature in GB [8]: – violation of the regulation of vascular tone with a relative predominance of vasoconstrictor phenomena; – violation of the structure of resistive vessels, an increase in the ratio of wall thickness to the diameter of the vessel lumen, stagnation in venules; – decrease in the density of the microvasculature (rarefaction). There are several types of remodeling of resistive vessels on the background of GB [18]. Eutrophic remodeling is characterized by a decrease in the external diameter and lumen of the court, an increase in the ratio "media thickness / light of the court". At the same time, the severity of the medial layer remains almost unchanged. This option is observed with a "soft" and short course of GB. The rigidity of the vessel wall remains at the same level. In hypertrophic remodeling of small-caliber arteries and arteriol, an increase in the "media / lightness of the court" ratio and the thickening of the medial layer of the vascular wall occur. May occur with symptomatic hypertension, primarily in the renovascular form. In hypotrophic remodeling, a decrease in the thickness

of the muscular layer and an increase in the glossary flux are observed. Such changes are possible against the background of active hypotensive therapy, under the influence of which the hypertrophy of the medial membrane of the arterial wall occurs. Equally important is the hereditary factor [6]. Rarefication is a decrease in the density of the microvascular network or a decrease in the number of functioning microvessels [8]. This phenomenon is observed in different variants of hypertension. 30 The processes of dilution of microvessels proceed in two stages. The first one is essentially functional and is characterized by the prevailing influence of the vasoconstrictor neurohumoral stimuli on the active capillary network. It is important to note that at this stage the number of actively functioning capillaries can increase and even return to normal under the influence of factors contributing to vasodilation [12]. A distinctive feature of the second stage of the racification of the MCR is the morphological reduction of microvessels, i.e., the changes become organic. The number of actively functioning capillaries does not return to normal, and even the maximum dilation of the existing microvessels is not able to maintain tissue perfusion at the same level. H. A. Struijker-Boudieretal. suggested a hypothesis according to which the dilution of the MCR is a consequence of an imbalance between the factors of angiogenesis and antiagiogenesis with the latter predominating [18]. Thoma put forward three postulates: 1) the number of microvessels depends on the genetic effects and metabolic needs of the tissues; 2) the diameter of the vessel depends on the flow of blood flowing through it; 3) the thickness of the vascular wall depends on the magnitude of transmural tension [14]. At present, these provisions have been deciphered in detail. Some observations suggest that microcirculatory abnormalities, in particular, rarefaction, may not be a consequence, but the cause of hypertension. T. F. Antoniosetal. showed that structural rarefaction can be found already in the early stages of GB [3; 6]. Moreover, it was found in healthy individuals with a genetic predisposition to hypertension [11]. Thus, the primary anatomical disorders of the ICR, in particular the suppression of angiogenesis and the disturbance of the growth of microvessels, can underlie GB. Over the past 15–20 years and now, in studying the state of the microcirculation system in various tissues, the laser Doppler flowmetry (DF) method has been widely used, which makes it possible to evaluate the level of tissue perfusion in general, as well as to give a detailed description of the state and regulatory mechanisms of blood flow MCR [1; 10]. The method is based on recording the dynamics of the blood flow in the MCR (proper fluorimetry) with the aid of the laser beam fabrication with further processing of the radiation reflected from the tissue, which is based on the Doppler effect. The doppler effect consists in changing the length of the wave of a low-frequency gallium-non-newgazer reflected from the blood cells, predominantly of erythrocytes, moving through surface microscopic vessels [20]. The fixed signal is proportional to the average velocity and the number of erythrocytes moving over a certain volume of tissue per unit time. In turn, the number of erythrocytes depends on the number of actively functioning capillaries [4]. The laser beam penetrates into the skin to a depth of up to 1.5 mm and provides information about the blood circulation in superficially located microdesodes [2]. The movement of erythrocytes in papillary capillaries of the skin, arterioles, venules and arteriovenous anastomoses of the superficial and middle layers is recorded [3]. The contribution of capillaries to the combined DF-signal is less than 10%, microcapsules of sub-papillary weaving is more than 90% [10]. Microcirculation disorders become one of the leading links in the pathogenesis of hypertension, contribute to the onset and progression of target organ damage – LV myocardial hypertrophy, hypertensive nephropathy, cerebrovascular pathology [4]. Reducing the density of microvessels in combination with changes in the rheological properties of the blood helps to reduce tissue perfusion and oxygen transport to tissues, and also leads to an increase in peripheral resistance and blood pressure [2]. On this basis, AH can be considered as a progressive ischemic syndrome with the involvement of macro- and microcirculation [20]. The various links of the MCR are capable of responding to stimuli as a single integral system that can adapt to the changing conditions of tissue replacement and is characterized by great plasticity. Therefore, a detailed study of the structure and function of one area accessible to the researcher may well provide an idea of the state of microcirculation in the whole [1].

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Kamalidinova Shakhnoza Mahmudkhanovna,
Tashkent Institute for Advanced Medical Education
Fazylov Akram Akmalovich,
Tashkent Institute for Advanced Medical Education,
Tashkent, Uzbekistan
E-mail: mbshakur@mail.ru

PRENATAL ULTRASOUND DIAGNOSIS OF HEART DISEASE

Abstract: Our study shows that early fetal echocardiography, performed in the period from 12 to 16 weeks of gestational age, is technically possible using the ultrasound protocol of the heart and can identify a wide range of significant cardiac abnormalities. Such an assessment may be an important part of early perinatal counseling, especially in fetuses with known genetic abnormalities or with other extracardiac defects. In addition, it allows to evaluate the progression of the disease and, given the beginning of the widespread use of intrauterine interventions, can provide an earlier and effective fetoscopy.

Keywords: pregnancy, ultrasound screening, malformations, cardiac abnormalities.

The study of the heart of the fetus is one of the most important stages of ultrasound in the second half of pregnancy. The assessment of this organ causes the greatest difficulties for the doctors of ultrasound diagnostics, conducting screening ultrasound diagnostics, conducting screening studies [1].

According to practical guidelines developed by the American Institute of Ultrasound in Medicine (AIUM) in 1998 [2] and the International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) in 2006 [3], the 4-chamber section, the left and right output paths should be included in a screening ultrasound of the fetal heart, albeit with the proviso "if it is technically feasible". Visualization of the main vessels of the heart in real time requires certain skills in the "manipulation" of the sensor and may be difficult due to insufficient experience of the doctor in scanning the heart in the antenatal period [4], and therefore the search and development of an available method for ultrasound examination of the fetal heart, less dependent on motor activity of the fetus and the experience of the researcher, remain the task of current research in prenatal diagnosis.

We offer you a protocol for ultrasound examination of the fetal heart, an algorithm for the step-by-step construction of diagnostic cardiac sections included in the extended echocardiographic examination of the fetus. This protocol can be applied at work, which allows visualizing and assessing the anatomy of the fetal heart and allowing timely diagnosis of heart defects.

Materials and research methods. A retrospective analysis of fetal echocardiograms, performed from July 2016 to December 2018 in the "fetal heart" program at the Republican Center "Mother and Child Scrining", was conducted.

Echocardiography of the fetus was determined at 12–22 weeks of gestation. In this study, all embryonic echocardiograms were made abdominal and transvaginal, if necessary. The complete echocardiography protocol of the fetus included a section through four chambers, a section through the left and right output tracts, noting "vascular crossing", the aortic arch, measured the right and left ventricles, atria, aortic diameter, pulmonary artery. Two-dimensional images of the structures of the heart were obtained. Heart rate, heart rate, and PR interval were also assessed, and the output of the aorta, pulmonary artery, and right and left ventricle were measured (Figure 1–8). The gestational age of the fetus was calculated on the last menstruation or using ultrasound measurements of fetal biometry.

Results of the study. During the study period, 142 fetal studies were performed. The average gestational age of the fetus for echocardiography was 19 weeks (range 12–22 weeks). A transabdominal study was sufficient to produce high-quality echograms in 104 of 142 fruits; in 26 cases, to clarify the diagnosis, additional images were obtained using a transvaginal study. All cases of transvaginal studies conducted as a result of restriction of transabdominal examination were carried out on a gestation period of less than 15 weeks, an average of 13.1 weeks (range 12.4–14.7 weeks). A complete study was conducted on 130 of 142 fruits.

Of course, the indication for early echocardiography is the determination of structural changes in the heart, where there is a suspicion of heart abnormality (91.7%) and fetal extracardiac abnormalities (50%). An increase in the collar space (>3 mm) is becoming an increasingly common indication for early fetal echocardiography, in 13.8% of such cases the pathology of the heart of the fetus was confirmed. Control echography at 22 weeks.

Routine echocardiography of the fetus was performed in 128 of 142 fetuses at a gestation period of more than 20 weeks

of gestation. Ten pregnancies were terminated, and over four were lost observation. In all aborted pregnancies, significant heart diseases were diagnosed and/or extracardiac or genetic abnormalities were observed.

Cardiac abnormalities were found in 32 of 142 fruits (22.5%). Of the 128 fruits examined in the early stages, 19 were diagnosed with cardiac pathology, they were re-examined at 20 weeks of gestation. Upon further evaluation, only 3 out of 19 fetuses were first diagnosed with a cardiac anomaly, but upon further examination revealed a normal heart. However, no pathology is missed with early echocardiography. These studies showed a sensitivity of 100%, a specificity of 97.3%, a positive prognostic value of 84.2%, and a negative prognostic value of 100% for major heart diseases.

Our study shows that early fetal echocardiography, performed in the period from 12 to 16 weeks of gestational age, is technically possible using the ultrasound protocol of the heart and can identify a wide range of significant cardiac abnormalities. Such an assessment may be an important part of early perinatal counseling, especially in fetuses with known genetic abnormalities or with other extracardiac defects. In addition, it allows to evaluate the progression of the disease and, given the beginning of the widespread use of intrauterine interventions, can provide an earlier and effective fetoscopy.

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Kamalidinova Shakhnoza Mahmudkhanovna,
Tashkent Institute for Advanced Medical Education,
Tashkent, Uzbekistan
E-mail: mbshakur@mail.ru

DOWN SYNDROME AND MATERNAL AGE

Abstract: Our statistical analysis once again proves the absence of an age factor as a risk of having children with Down syndrome, and an increase in the birth of children with Down syndrome in mothers aged 19 to 35 is directly related to the increase in the number of births.

Keywords: Down syndrome, maternal age factor.

Aneuploidy are the main causes of perinatal mortality, among which Down syndrome is one of the most frequently occurring forms of chromosomal abnormalities [1; 2]. Every year, the number of births of children with Down syndrome grows on average by 0.9% of cases per year, compared with the previous year. The frequency of birth of children with Down syndrome averages 1: 800 [2]. Most authors in 70% of cases associate the risk the birth of children with trisomy 21 maternal age and 30% with the age of the father [3; 4]. So when a mother is under 30, the probability of having a child with Down syndrome is 1: 2500, at 31–34 the risk of birth increases and is 1: 1200, the greatest risk of birth occurs at 35–39 years –1: 200 [2; 7, 8].

However, the data given by the authors indicate that the development of a risk scale for the birth of children with Down syndrome was compiled in relation to the children already born with trisomy 21 to the total number of newborns [7; 8]. In drawing up the risk of having children with Down syndrome, the number of miscarriages, abortions and fetal death, the risk of which in trisomy 21, starting at 12 weeks of gestation, is about 30% was not taken into account. For comparison, the risk of fetal death of an euploid fetus is only 1–2% [1]. In the early 1970s, the number of pregnant women over 35 years old was only 5%, among which 30% of the total number of fruits was with trisomy 21. In subsequent years, there was a general tendency in pregnant countries to become pregnant at an older age, the number of pregnant women over 35 years old increased. up to 20%, and therefore the number of fruits with trisomy 21 [1; 5] increases.

In contrast to developed countries, in developing countries, the peak birth rate is between 22–26 years old and women's birth rate is 35 years old and an average of 80% compared to women over 35 years old – 20%. The number of registered fruits with trisomy 21 in women under 35 years old is 4 times higher compared with older women [10–12].

It should also be noted that all complete trisomies occur only on autosomals rich in heterochromatin, which are located on chromosome 8, 9, 13, 18 and 21, in most cases (90%) trisomy occur due to non-divergence of chromosomes in meiosis. It can be assumed that the incidence of trisomy on chromosomes (8, 9, 13, 18, and 21) will occur in all cases the same. Although trisomy 18 and 13 chromosomes are relatively rare (1: 7000–1: 14000), but the dependence on the woman's age is less severe compared to trisomy of chromosome 21 [12]. For comparison, the risk of having a child with Edwards syndrome, for women over 45, is only 0.7% compared with Down syndrome over the age of 45, the probability of which is 3–5% [10–12]. The absence of the age factor is indicated by Ferguson-Smith (1983) data, which showed that the risk of having children with Down syndrome aged 35 and 39–47 years is higher compared with women older than 47 years. Mattei J. F. etall also revealed the absence of age as a factor in non-divergence of chromosomes in meiosis. The failure of the age-risk theory also indicates the low sensitivity of the method for diagnosing Down syndrome according to age risk [9]. In this analysis, we decided to study the effectiveness of prenatal diagnosis without taking into account the age risk of the mother, as well as having a relationship between the parents' age.

The **purpose** of this study is to assess the effects of various demographic factors on the prevalence of newborns with Down syndrome and to study the patterns of the influence of these factors in different populations.

Materials and research methods. This study is the result of a study of the demographic indicators of Uzbekistan, as well as some cities in Western Africa, North and South America, Eastern and Western Europe, Southeast Asia and South Asia. Individual records of birth and Down syndrome were collected as a result of the use of a program for the diagnosis of congenital and hereditary diseases conducted at the Republican Screening Center for Mother and Child from January 1, 2008 to December 31, 2011.

Consent to this study was obtained from the administration of the Republican "Screening Center for Mother and Child", as well as from pregnant women who agreed to undergo prenatal diagnosis.

As a result of the study, we retrospectively analyzed 516, 448 questionnaires of female-bearing children without a genetic pathology, 514 questionnaires of children with Down syndrome. Separation by ethnic groups was not carried out, as these data are not available in the questionnaires of pregnant women. Maternal and paternal ages were studied as continuous and categorical variables. The age was divided into 7 groups as categories divided by a five-year interval (up to 19 years, 20–24, 25–29, 30–34, 35–39, 40–44 and over 45 years), and two age categories up to 35 and over 35 years old. We used seven and two age categories to identify possible non-linear trends in the relationship between the age of the parents, the prevalence of Down syndrome and the number of births.

Biochemical screening was performed to calculate the risk of having a child with Down syndrome using test systems on the "DELFIA" apparatus – A067–101. Blood sampling was carried out according to generally accepted standards on an empty stomach from the brachial vein in the elbow joint. The biochemical parameters of AFP, hCG were studied.

The results of the study. According to the results of the studies conducted from 2008 to 2011, among the 516448 pregnant birthless children without genetic pathology, the largest number of births was between 20 and 24 years old and averaged 38.8%. The average age of pregnant women who gave birth to children without genetic pathology was 26 years. The prevalence of children with Down syndrome in the Republic of Uzbekistan from 2008 to 2011 ranged from 0.51 to 0.79 cases per 1000 newborns. On average, the number of children born with Down syndrome is 0.62 cases per 1000 newborns or the birth of one child with Down syndrome per 620 people. Compared to the Czech Republic, the prevalence of children with Down syndrome is 1 case per 530 live births, the birth rate of the state of California was 1 case per 1150 babies. In the study of fertility among women who have given birth to children with Down syndrome, the largest number of births from 2008 to 2010 falls on the age of 20 to 24 years, in 2011 the largest number of births ranged from 25 to 29 years. The average age of pregnant and giving birth to children with Down syndrome was 30 years. The largest number of children with Down syndrome were registered among fathers aged 25 to 29 years old, the average number of which was 21.4%. The average paternal age was 33 years. Such a clear distinction between maternal and paternal ages is due primarily to the fact that most of the number of unions are between couples with a difference of three years, this is confirmed by the strong correlation dependence of 0.86 between the mother and paternal ages. The largest percentage of births in women without genetic pathology is in the age range from 16 to 34 years (90.02%), women over 35 give birth to only 9.98%. Among them, the highest percentage of births of children with Down syndrome occurs at the age of up to 35 years, women from 35 years and older give birth – 30.86%. There are 0.52 children with Down syndrome per thousand pregnant women up to 35 years old, compared with women over 35 years old – 2.1. Whereas the average age of women and father is 33 years. The prevalence of birth of children with Down syndrome in all age groups in the Republic of Uzbekistan from 2008 to 2011 ranged from 0.51 to 0.79 cases per 1000 newborns. On average, the birth of a child with Down syndrome is 1 case per 625 newborns without a genetic pathology.

During the study, we formed 3 groups of pregnant women. The first group included 512658 women with a physiological course of pregnancy without age risk. The second group consisted of 3383 women with a high age risk of having children with Down syndrome by the physiological course of pregnancy. In the third group of 514 children with Down syndrome. The number of examined pregnant women from 14 to 20 weeks of pregnancy averaged 73720.14. The average age of pregnant women did not change from the year of the study and the period of gestation, which was 24 years. The number of women who gave birth to children under 16 to 35 years old is 23365 (87.35%), pregnant women 35 years old and over 3383 (12.65%).

The number of women giving birth to children with Down syndrome from 16 to 35 years old is 400 (77.82%), 35 years old and over 114 (22.18%). The distribution of children born without genetic pathology and children with Down syndrome between the ages of 19 and 30 years old shows a relatively high birth rate among children without genetic pathology – 58.11% and in children with Down syndrome – 22.71% compared to the birth rate from 31 to 40 years old, the number of children without genetic pathology was 12.7%, and the number of children with Down syndrome was 3.69%, which is approximately 3.2 times less than women who gave birth between the ages of 19 and 30.

Distribution of children born without genetic pathology and children with Down syndrome between the ages of 19 and 34 years, the birth rate is higher among both children without genetic pathology – 72.12% and in children with Down syndrome – 8.7% compared with birth rates from 35 to 40 years old, the number of children without genetic pathology was 15.49%, and the number of children with Down syndrome was 3.69%, which is about 2.4 times less than women who gave birth between the ages of 19 and 34. For a comparative analysis, all women, depending on age, were divided into 4 groups, the first group included women from 19 to 24 years old, the second – 25–29 years old, the third from 30 to 34 years old and the fourth from 35 to 40 years old.

Conclusions and practical recommendations. Our statistical analysis once again proves the absence of an age

factor as a risk of having children with Down syndrome, and an increase in the birth of children with Down syndrome in mothers aged 19 to 35 is directly related to the increase in the number of births. The exclusion of the mother's age as one of the main factors will equalize the chances when making high-risk groups of having children with Down syndrome in all age groups, thereby reducing the percentage of false-negative and false-positive results of this syndrome in women from 19 to 34 years. From this it follows that in the future it is necessary to look for other etiological factors affecting the onset of Down syndrome, which will allow to reasonably form a group at high risk of having children with Down syndrome.

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Karataeva N. A.,
assistant, the Department of clinical immunology,
allerology, microbiology.
Tashkent Pediatric Medical Institute, Tashkent city
E-mail: cool.lolo@mail.ru

MODERN VIEWS ON ALLERGIC DISEASES IN CHILDREN

Abstract: On the basis of literature review our work touches upon the basics of allergy in children.
Keywords: children, allergy, living, world's, population.

The urgency of the problem of bronchial asthma is explained by the steady growth, in all countries of the world, its cases with a more severe clinical course, often resulting in a fatal outcome. In this regard, Uzbekistan is no exception, where in recent years has been an increase of asthma in more than 20-fold among children. Especially often there is bronchial asthma among children living in an ecologically unfavorable region. Although various aspects of the problem of bronchial asthma have been successfully developed, nevertheless, there are many open questions that need to be resolved.

Analysis of the literature sources show that the influence of various environmental factors on the development of the skin diseases is quite numerous. At the same time, the analysis of the works published in recent years does not provide an opportunity to identify the priority factors that influence the formation of the skin diseases among the population of urbanized areas. The basis of many published studies is the analysis of the official statistical reports that characterize only the general level of prevalence and, in part, the structure of this pathology.

Also, an analysis of the literature sources showed that skin manifestations, which may be associated with food allergy, are characterized by pronounced polymorphism. Long-term observations have shown that in infants the two main groups of symptoms are most common: allergic skin lesions, gastrointestinal disturbances in the form of dyspeptic disorders and diarrhea. These manifestations arise separately, or in combination with each other.

The duration of the individual stages of development of eczematous eruptions in children suffering from atopic dermatitis, as well as the transition from the acute stage to subacute or remission of the disease, are different. For example, in some, the stage of exudation (wetness) may be longer, in others it quickly transforms into lichenoid, in the third the papular rash and lichenification are observed immediately, without the stage of exudation. In connection with the sequential appearance of skin rashes and their unequal evolution, the clinical picture of atopic dermatitis is very polymorphic. In one place, exudation (wetting) can occur in one place, in others – foci of lesion, covered with crusts, in the third – papules, plaques and lichenification.

Bronchial asthma (BA) remains one of the most serious diseases of the bronchopulmonary system. From 4 to 8% of the world's population suffers from this pathology, in children this indicator is 5–10%. According to some prognostic analytical studies, by 2025 the number of patients with asthma may increase by another 100–150 million people. Currently in Europe, this disease affects more than 30 million people.

Purpose of the study. Analysis of the causes of bronchial asthma in children.

Materials and methods. Materials of our study were the history of diseases of 50 children with bronchial asthma at the age of 4–18 years.

And also laboratory methods of research, questioning, quality of life assessment using a questionnaire.

All patients underwent treatment and examination for bronchial asthma in the allergological ward of City Clinical Children's Hospital No. 1 in Tashkent. In all patients, the diagnosis of bronchial asthma was made on the basis of anamnestic data analysis, the presence of reversible recurrent bronchial obstructive syndrome and signs of bronchial hyperreactivity.

The peculiarities of the physical and psychomotor development of children in the first year of life, the transferred diseases, the duration of breastfeeding, etc. were found out. According to anamnestic data, 43(28.8%) children were born from mothers with unfavorable course of pregnancy. In 22(6.5%) mothers there were pathological births: including cesarean section in 12(3.6%) women and premature birth in 7 women.

According to the severity of asthma, children were distributed as follows: mild severity – 11.6%, moderate severity – 53.1%, severe – 35.3%. All children carefully collected anamnesis of the disease, an analysis of available medical documents (polyclinic cards, discharge certificates from other institutions, diaries of self-control). Received patients in the hospital with BA were examined clinically spirography, peakflowmetry, electrocardiography, chest X-ray. During hospitalization, patients received complex treatment, including inhaled glucocorticosteroids, long-acting (β2-agonists), in some cases – the solution of euphyllin intravenously drip, if necessary – systemic glucocorticosteroids.

When hospitalized, patients had asthma attacks, coughing, wheezing, reduced or no effect from short-acting inhaled β2-agonists, restricted physical activity, frequent nocturnal symptoms of BA. Patients with asthma who were admitted to hospital had daily asthma symptoms that limited activity and sleep. The number of nocturnal awakenings averaged 1.25 times per night, the need for short-acting β2-agonists was 4.75 ± 0.6 inhalations per day.

One of the most important features of the clinical course of BA was the frequent combination of asthma with allergic rhinosinusitis. The incidence of BA with allergic rhinosinusitis (ARS) was 44(88.0%), and in 31(70.5%) cases, symptoms of BA and ARS appeared simultaneously, and in other cases (29.5%), symptoms of ARC joined after the appearance of signs of asthma.

Conclusions. Thus, it turned out that BA has the features of the clinical course, i.e. often associated with allergic rhinosinusitis in the clinical course of the case is dominated by moderate and severe forms, in the etiology of the disease are important regional non-infectious allergens. The high frequency of combination of symptoms of asthma with ARS indicates the unity of the mechanisms of the onset of these allergic diseases and the close connection of the upper and lower respiratory tract. When studying the spectrum of allergens that are important in the etiology of bronchial asthma, it is established that home-made dust and its components are a cause-significant allergen.

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Karimova Nilufar Nabidjanovna,
candidate of medical sciences, associate professor
of the Department of Obstetrics and Gynecology,
Bukhara State Medical Institute
E-mail: nilufarnabijanovna@gmail.com

Tursunova Nodira Isroilovna,
assistant of department Oncology,
Tashkent Medical Academy
E-mail: dr.nik8888@mail.ru

PRESENT AND FUTURE OF REPRODUCTIVE SYSTEM AFTER MASSIVE OBSTETRIC BLEEDING

Abstract: The aim of the research was to study the effectiveness of modern principles of stopping postpartum obstetric bleeding. From 127 cases of bleeding in 101 women (79.5%) the childbirth were with the operational method. With the development of blood loss was rendered stepwise ways to stop bleeding. During hemostasis of the bleeding, ligatures were imposed on the ovarian arteries and the ascending branch of the uterine artery for ischemicization of the uterus, which was effective in 30 (30%) women, and in 114 (89.7%) women managed to achieve organ-sparing tactics.

Keywords: obstetric bleeding, hypotonia of the uterus, Cesarean section.

Among the various obstetric complications arising in childbirth and the early postpartum period, bleeding continues to occupy one of the leading places [1; 2]. In the population of women of reproductive age in 15.5% obstetric complications (atonic bleeding, pathology of the placenta, scar on the uterus, rupture / perforation of the uterus, severe pre-eclampsia) caused radical operations [3; 4]. One of the factors affecting the growth in the frequency of obstetric hemorrhage at the present days is the increase the numbers of abdominal delivery. The frequency of bleeding during abdominal delivery increased by 3–5 times, compared with spontaneous birth [5]. In some cases, surgery is complicated by even more massive bleeding, mainly due to a decrease in the contractile function of the myometrium. Saving a woman's life in critical situations is the main task of obstetricians, since obstetric hemorrhages are the main cause of maternal mortality, accounting for 20–25% in pure form, 42% as a competing cause, and up to 78% as a background cause [1; 3]. At the same time, pathological blood loss in childbirth and the postpartum period has an adverse effect on the subsequent health of the woman [6; 7]. In obstetric practice, bleeding continues to be the most serious problem, as among the causes of maternal mortality they constitute 20–25% [2; 4; 5].

The most common causes of bleeding at Caesarean section are hypo- and atonic states of the uterus and DIC (dissemination intravascular coagulation) syndrome [6; 7]. Hypotonia of the uterus is accompanied by 1.8% of all Cesarean section operations. In case of massive bleeding the main task of obstetricians is to save the woman's life with hysterectomy, and then to prevent immediate and remote complications [8; 9]. This prompted us to analyze the immediate and long-term results of assisting 127 women with acute massive obstetric blood loss in our clinic over the past 5 years.

The aim of our work was to evaluate the immediate and long-term results of massive postpartum bleeding. Analysis of the mortality of pregnant women and woman in labor from bleeding indicates certain defects in the organization of the therapeutic and prophylactic process in antenatal clinics and maternity homes, and every seventh of them suffers from bleeding, which in 50% is caused by hypo- or atony of the uterus in the postpartum period. Postpartum hemostasis is a complex and multicomponent process [8; 9; 10].

The aim of our research was to study the effectiveness of modern principles of stopping postpartum obstetric bleeding and restoring the reproductive system.

Materials and methods: Over the past 3 years (2014–2017), 6.400 pregnant women were given birth in the city maternity hospital in Bukhara, more than half of them were threatened with bleeding. Massive blood loss (over 1000 ml) occurred in 127(1.9%) women.

A detailed analysis of 127 histories of childbirth, wich complicated by massive blood loss, showed that primiparous women made up 64.1% and multiparous was 35.9%. At delivery through the natural birth canal, blood loss exceeding 1000 ml occurred in 26(20.4% of bleeding) women, with planned Cesarean section – in 43(33.8%), in case of emergency – in 58(45.6%).

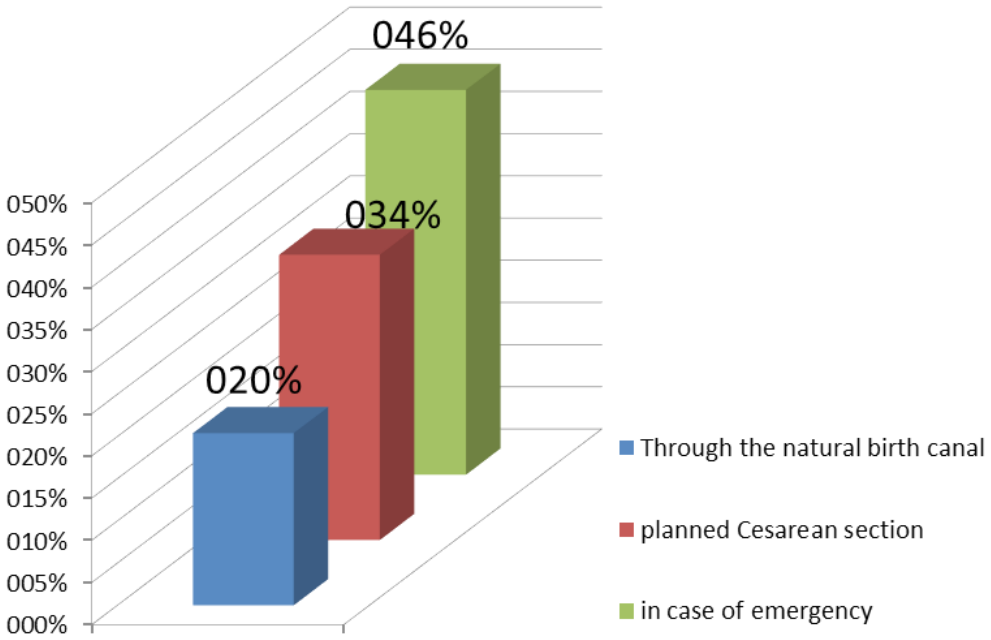

Figure 1. Analysis of childbirth, wich complicated by massive blood loss

An analysis of the course of pregnancy revealed that 29(22.8%) were threatened with abortion, 23(18.1%) had high hydration and signs of intrauterine infection of the fetus, 31(24.4%) had mild preeclampsia, each second anemia, with half of the patients having a combination of two or more pregnancy complications. The average age of the patients was 23.1 ± 0.9 years.

The strategic stages of treatment of massive bleeding were selected:

– Correct assessment of the quantitative and qualitative components of blood loss;

– Timely and adequate infusion – transfusion therapy;

– Timely and adequate surgical treatment (organ preservation tactics);

– Permanent hardware and laboratory monitoring of vital functions and homeostasis.

In modern obstetrics, methods of dealing with hypotonic and atonic bleeding can be divided into 3 groups: drug, mechanical and operational.

Statistical analysis of the data was carried out using the standard Statistica software package (version 7.0, Statsoft Inc., USA). Survival analysis (using the Kaplan-Mayer method) and evaluating the reliability of differences were performed using a log-rank test using the "Survival" program. Differences were considered reliable at $p \leq 0.05$.

Results: For bleeding after vaginal delivery (26 cases; 20.4% of the number of bleeding), we used the drug method (uterotonic agents), oxytocin 5 units. intravenously – in 12 (9.4%) patients. Manual examination of the walls of the postpartum uterus, with bimanual compression, was performed in 9–7%, administration of misoprostol 800–1000 μg per rectum in 2–1.5%.

Removal of the uterus with the ineffectiveness of conservative therapy was performed in 1 (0.7%) women. The deliveries were operational in 101 women, 79.5% of the 127 cases of bleeding. With the development of blood loss was phased ways to stop bleeding.

During hemostasis of the bleeding, ligatures were imposed on the ovarian arteries and the ascending branch of the uterine artery for ischemicization of the uterus, which was effective in 30(30%) women.

As a next measure, hemostatic compression stitches on the uterus were used. The principle of their application is – the insertion in the same plane of sagital or transverse subserous blanket absorbable sutures with compression of the uterus. A thick thread is used on the piercing atraumatic needle. This method proved to be effective in 49 puerperas, which is 38.7%.

From the remaining 43 women in 30(23.6%) patients of the most effective organ-sparing intervention was ligation of the internal iliac arteries. It is necessary to note that these manipulations are performed only by highly qualified specialists, sometimes with the participation of vascular surgeons. The uterus was removed in 13(10.2%) women. Today, we can call the removal of an organ to stop bleeding "the operation of despair", when other ways of preserving the life of the puerperal woman have already shown their futility. Thus, in 114(89.7%) women we managed to implement organ-preserving tactics.

The next step in the treatment of obstetric hemorrhage is the intravenous administration of fresh frozen donor plasma,

the infusion of hydroxyethylated starch (HES) preparations, proteolysis inhibitors and calloid – crystalloid preparations, taking into account the volume of hemorrhage.

The recovery time of menstrual and generative function after childbirth varies widely and largely depends on the conditions of labor, the amount of blood loss in the postpartum period and lactation. After uncomplicated labor in young primiparous women, there is observed earlier (5–6 weeks after delivery) the resumption of menstrual cycles. However, acute blood loss during childbirth leads to disruption of the hypothalamic-pituitary-ovarian system and affects the formation of menstrual and generative functions. The first menstruation after childbirth were moderate in 45%, abundant in 22.2% and scarce in 12.8% of women, 30.3% of women suffered from amenorrhea, in 66% menstruation was irregular, in 34% – regular. Ovulatory cycles are observed in about 40% of non-lactating and in 20% of lactating women. Of the women we examined, 20% did not protect against pregnancy, the rest used various methods of contraception. Studies have shown that the timing of the resumption of menstrual function in women who have undergone abnormal bleeding occurs much later, sometimes absent. Pathological labor, being a major stress for the body, as it is accompanied by abundant blood loss, adversely affects the central nervous system, directly the menstrual function, which requires the use of hormone replacement and antianemic therapy.

Conclusion: Thus, the use of a modern approach to stopping postpartum hemorrhage and the introduction into clinical practice of adequate surgical tactics make it possible to practically abandon organ-bearing interventions and to achieve the preservation of the menstrual and reproductive functions in patients.

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Kurbanov A. T.,
assistant of the Department of Pathological Anatomy
Tashkent Pediatric Medical Institute
E-mail: cool.lolo@mail.ru

BASICS OF DERMATOGLYPHIC IN MEDICINE

Abstract: In the study of dermatoglyphics began many years ago and biologists, genetics, forensic experts, and therefore our work reflects the basics of dermatoglyphics in medicine based on literary sources.

Keywords: skin patterns, personality, hand, line, fingers.

Dermatoglyphics as a special section of knowledge formed at the end of the XIX beginning of the XX century But interest in papillary lines and patterns goes far back centuries, long before their scientific study. One of the earliest news about skin relief is in the area of the Micmac Indians, south of Labrador. An image on a stone was found there, representing the human hand in primitive lines.

The ancient Chinese, Babylonians, Assyrians, Egyptians, and Indians replaced the signature with fingerprints. Native American peoples paid attention to the skin relief of the palms even before European colonization.

Modern dermatoglyphics and, as part of it, fingerprinting (from gr. Daktylos – finger, skopeo – look), used in forensic medicine for personal identification, are based on scientific principles. They could arise only at a certain level of development of biology and under certain social relations.

As is known, the frequency of skin patterns varies greatly among different nations of the world. There are also strong regional differences in the frequency of dermatoglyphic patterns. It is not known what factors determine these regional differences. Scientists studying different phenotypes in normal populations have still not been able to associate these phenotypes with any significant advantages or disadvantages, which would help to unravel or find the "key to the nature of the selection action".

The earliest scientific reports on dermatoglyphics date from the 17th century. They are associated with anatomical studies of the skin and morphology of the scallops of the epidermis. One of the first descriptions of the device of skin scallops and sweat pores belongs to the English anatomist Grew (1684). Malpighi in his anatomical works relating to 1686, gave a brief description of the patterns of the palms and fingers of a person.

According to literary sources, references to skin relief are found in many anatomical works of the 18th century. Advances in biology in the early nineteenth century were a favorable condition for anatomical studies of the skin. A classic study of the skin of biologist Jan Purkinje (1823) dates back to this time. In his work Purkinje deals with flexion sulci and papillary lines of the palms. He describes triradii, sweat pores, the course of papillary crests on the tenor and hypotenor, noting that they often contain loops and curls; also describes skin patterns on the palms of monkeys.

Purkinje gave the first classification of the variation of finger patterns, highlighting 9 basic patterned types. Despite the fact that he did not touch on the practical application of fingerprints, his classification played a role in the development of fingerprinting at the end of the 19th century. In addition to studies Purkin, in the first half of the nineteenth century. nothing significant on the study of the skin relief was undertaken. Only occasional mentions of him are in some books on human anatomy and physiology. Only in the last third of the XIX century. began to appear work specifically devoted to dermatoglyphics. At the same time, for the first time, fingerprints were practically used to identify the person.

A new era in the study of dermatoglyphics began American scientist Wilder, who with good reason can be called the ancestor of ethnic dermatoglyphics. He first developed a method for studying papillary lines and patterns on the palms and soles. For many years, Wilder has devoted the study of the skin relief of different human races. He found out that there are racial differences in the direction of the palm lines and in the frequency of occurrence of the pattern of skin scallops on the palm palms.

Wilder's work was followed by numerous studies in the field of ethnic dermatoglyphics. Since the 20s of the 20th century, extensive information on the dermatoglyphics of various peoples of the world has been published, which more and more fill white spots on the map of the racial features of the skin relief

Also, the authors noted that in addition to ethnic dermatoglyphics, during this period various studies were undertaken concerning other aspects of dermatoglyphics. Of these, the work of an American scientist Cummins on the factors responsible for the difference and direction of skin scallops, as well as on the embryonic development of the volar pads, deserves the most attention. A special direction in dermatoglyphics was created by a professor at the University of Oslo Bonnevie studying the embryonic development of finger patterns in connection with heredity.

In the thirties, the skin relief of primates and other mammals began to be studied again. In the 2nd half of the 20th cen-

tury, many works were devoted to the study of the heredity of the skin relief.

The work of Cummins and Midlo enjoy great fame in the field of dermatoglyphics. As a result of many years of work, based on their original materials and literary data, they published two major monographs – on primate skin relief (1942) and general dermatoglyphics (1943), which are of considerable interest to anthropologists, biologists, physicians, and criminologists.

In 1966 The first national monograph by TD Gladkova on dermatoglyphics was published. In 1968, the monograph S. B. Holt on the genetics of dermatoglyphic patterns. In 1975, a topographical classification of Penrose patterns was published. In 1976 – the first manual on medical dermatoglyphics

The first domestic monograph by GA Khit on ethnic dermatoglyphics was published in 1983, and in 1986, a domestic monograph by I. S. Guseva on morphogenesis and genetics of combed human skin was published. In 1994, N. N. Bogdanov, engaged in dermatoglyphics in medicine, conducted the first study of the correlation between signs of dermatoglyphics and EEG (electroencephalography).

The above works reflect the fields of application of dermatoglyphics: forensic science, medicine, genetics, embryology, ethnography, anthropology, judicial and sports medicine.

The method of dermatoglyphics allows to determine the susceptibility to diseases, as well as a kind of genetic background that increases susceptibility, such as infectious diseases. In some cases, this method can be used to clarify clinical diagnoses, which may have some practical significance.

Diagnosis of diseases according to cutaneous patterns is based on finding in a given patient a dermatoglyphic constitution characteristic of a group of people suffering from this pathology. The results of the analysis of dermatoglyphic signs are used by domestic and foreign researchers to study dermatoglyphic features of more than 100 diseases.

Among the most significant (according to the possible level of individualization and stability) of feature systems is the characteristic system of comb-skin skin patterns studied by dermatoglyphics. Dermatoglyphic features are associated with many characteristics of the human body, which from the point of view of forensic medicine can be considered as common and particular signs of personality. Papillary patterns in their main manifestations are inherited, on the basis of which it is possible to establish consanguinity and indirect identification of the person of the deceased.

Despite the many works devoted to this aspect of dermatoglyphics, until today, a practically acceptable method of diagnostics based on its identification of significant personality traits, such as gender or age, has not been created.

A variety of methodological approaches to the study of dermatoglyphic features in anthropologists, physicians, psychophysiologists and forensic scientists, associated primarily with the difference in the tasks to be solved, does not allow creating a unified system for assessing the informativity of dermatoglyphic features specific practical tasks.

Thus, summing up the literature review, it can be said that the development of dermatoglyphics as spiders, studying the external structure of the papillary relief, proved its exceptional informativeness, which allows to solve a wide range of problems of forensic medicine, criminology and anthropology.

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Liverko Irina Vladimirovna,
MD, professor, deputy director,
of the Scientific Center of Physiology and Pulmonology
Ubaydullaeva Naima Nabikhanovna,
PhD., in medicine, associate professor,
of the Departmen of Pulmonology
of the Tashkent Institute of Postgraduate
Medical Education, Tashkent, Uzbekistan
E-mail: unaima@mail.ru

ASSESSMENT AND ORIGINS OF MALNUTRITION, AND POTENTIALITIES OF NUTRITIONAL SUPPORT IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Abstract: Nutritional status was assessed in 105 elderly patients with chronic obstructive pulmonary disease (COPD) (mean age 51.5 ± 2.3 years, disease duration 20.5 ± 1.5 years) by means of the Mini Nutritional Assessment Short-Form (MNA®-SF). According to interview findings, malnutrition was registered in 42.8% patients with COPD, 33.3% of the patients needed the nutritional support. The malnutrition of patients with COPD is a multifactorial disorder with the nutritive factor playing a significant role in its onset and progression; a third of the patients were found not to have proper intake of protein, fruits and vegetables, and fluids. 6.7% of patients with COPD found it difficult to eat without assistance due to shortness of breath when eating. The patients with COPD tended to overestimate both their nutrition status and health status. The nutraceuticals used in the combination therapy for patients with COPD were shown to produce tonic, and what is more significant, anabolic action, to facilitate tolerance to physical loading and to reduce the extent of the effect COPD produced on a patient's life.

Keywords: chronic obstructive pulmonary disease, malnutrition, nutritional support, nutraceuticals**.**

According to the European Society of Parenteral and Enteral Nutrition (ESPEN), malnutrition among elderly persons occurs in 15% of community-dwelling ones, in 30% of those living at the nursing houses, in 48% of those under continuous care and in 50% of those hospitalized at health-care facilities of various specialties, to name, surgery (27–28%), internal medicine (46–49%), eldercare (26–57%), orthopedics (39–45%), oncology (46–88%), infection (42–59%), pulmonology (33–63%), gastroenterology (46–60%) and chronic kidney disease (31–59%) [3; 4].

The malnutrition is considered clinically significant when the weight loss is ≤ 10%. 20% protein malnutrition drastically increases the likelihood of fatigue, depression, perioperative morbidity, sepsis and wound infection, and mortality (Gray-Donald K. et al., 1996; Schols A. M. et al., 1998; Allison S. P., 2000) [1; 5; 9].

Typically, the malnutrition is undiagnosed and untreated, specifically in the in-patients. Essentially, this is due to (i) absence of the medical staff's proper training in methods of nutritional therapy, (ii) lack of expert knowledge, (iii) scarcity of appropriate protocols for examination and assessment of malnutrition, and (iv) inadequacy of measures taken [2; 6].

The findings from multiple studies demonstrate that nutritional disorders are associated with various structural and functional changes in a human organism, as well as with disturbances of metabolism, homeostasis and its adaptive reserves. Nutritional supply of seriously ill patients and their mortality have been found to correlate positively; the harder the energy failure, the more frequently multiple organ system failure and lethal outcome occurs (Popova T. S. et al., 2000; Gray-Donald K. et al., 1996; Landbo C. et al., 1999) [5; 7; 8].

It is beyond argument that in addition to oxygen supply, the nutritional homeostasis is the mainstay for an organism's functioning and a key condition to overcome pathologies. Next to its intrinsic factors, to a considerable extent, maintenance of a human organism's nutritional homeostasis is determined by availability of the nutritious substrates necessary for life support.

The aim of the work was initiated to assess the nutritional status in elderly patients with chronic obstructive pulmonary disease (COPD) and to choose the modus operandi for the nutritional support.

Materials and methods. Nutritional status was identified in 105 elderly patients with COPD (mean age 51.5 ± 2.3 years, disease duration 20.5 ± 1.5 years) by means of the most simple

and practical tool, the Mini Nutritional Assessment Short-Form (MNA®-SF), consisting of a screening (a 6-parameter first step) and an assessment (a 12-parameter second step) (Supplement 1).

Maximum composite screening score is 14 points. 12–14 points imply normal nutritional status, no risk of malnutrition and no necessity of the second step. 9–11 points imply risk of malnutrition and necessity of the second step.

Maximum composite score at the second step is 16 points. Composite score for two steps is 30 points. 17–23.5 points imply risk of undernutrition; > 17 points imply clinical undernutrition (CU).

The patients with COPD and initial signs of undernutrition, and thus, needing nutritional support (n=60) were divided into two groups. In the course of combination therapy for the disease exacerbation, 35 patients (1st group) additionally received 4 courses of kuvatin (Institute of the Chemistry of Plant Substances, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan) (a tablet thrice a day for 3 months) and ekdisten (Institute of the Chemistry of Plant Substances, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan) (two tablets twice a day for 15 days with 10-day intervals), 25 patients (2nd group) were prescribed with kuvatin only (a tablet thrice a day 20 minutes before meals for 3 months). 15 patients with COPD prescribed with a specific diet were included into the control group. To process the data, we used the Statistical Analysis System (SAS), a software suite that can mine, alter, manage and retrieve data from a variety of sources, and perform statistical analysis.

Results and discussion. According to interview findings, malnutrition was registered in 42.8% patients with COPD. 57.1% of patients reported the decline in food intake over previous 3 months due to low appetite, 14.3% and 42.8% among them specified the loss as the strong and moderate, respectively. Weight loss between 1 and 3 kg during previous 3 months was reported by 28.6%. Equivalent proportions of patients with COPD, 14.3%, (i) could not go out due to mobility restriction, (ii) reported irritability, anger and memory disorders and (iii) had BMI < 19 kg/m^2. As the findings from assessment of quality of nourishment demonstrated, only 66.7% of patients had two proper meals a day. According to findings from assessment of markers for consumption of protein, 33.3% of patients with COPD answered "yes" one time, 66.7% answered "yes" two times and no one chose the whole list of markers. 66.7% of patients with COPD consumed two or more vegetable or fruit dishes a day, 33.3% were deprived of the possibility to do it. As to fluid intake (including water, juice, coffee, milk, tea) a day, 33.3% of patients had 3–5 glasses; 6.7% found it difficult to eat without assistance due to shortness of breath when eating. According to 66.7% of patients, there were no problems with food intake; the nutrition status was regarded as poor only by 6.7%. Self-scoring their health status, 66.7% of patients estimated it as better than other people's health; 33.3% of patients regarded their health status as good as the one of people of the same age. Patients with COPD tended to overestimate both their nutrition status and health status. Our findings demonstrated that 33.3% of patients with COPD needed a nutritional support.

Active nutritional support is to be prescribed in case of:

1. Relatively rapid progress of weight loss in consequence of the disease: > 2% a week, > 5% a month, > 10% a quarter or > 20% per six months.

2. Presence of signs of initial undernutrition, including BMI < 19 kg/m^2, upper arm circumference < 90% on the standard (< 26 cm for men and < 25 cm for women), hypoproteinemia < 60 g/l (or) hypoalbuminemia < 30g/l and lymphocytopenia < 1200.

3. Hazard of progressing nutritional deficiency, including impossibility of natural oral feeding when a patient cannot, does not want or should not take food naturally, and presents with hypermetabolism and hypercatabolism.

Proper nutritional intervention should be based upon (i) promptitude, implying that the therapy should start as early as possible avoiding severe undernutrition resisting treatment, (ii) adequacy, implying that the patient should get nutrient materials to cover for his/her organism expenditures and (iii) optimality, implying that the therapy should last until complete normalization of somatometric and clinical-laboratory parameters.

Nutritional intervention should include prescribing of a high-calorie diet, and formulas for enteral and parenteral feeding. The diet should contain high amounts of easily digested proteins, have sufficient caloric value and be rich in macro- and microelements and vitamins. Practical expertise demonstrates that there is a limited choice of food products with the properties above.

We have managed to consider approaches to nutritional support for patients with COPD by means of nutraceuticals as represented by kuvatin, an oral nutritional supplement (ONS), and ecdisten, a phytoecdysterone.

Kuvatin is an oral nutritional supplement (ONS) with a composition of natural protein containing amino acids, such as asparagine, threonine, serine, glutamine, proline, glycine, alanine, cysteine, valine, methionine, isoleucine, tyrosine, phenylalanine, histidine, tryptophan, lyzine and arginine, and microelements, such as sodium, bromine, magnesium, potassium, argentum, chrome, iron, titan, calcium, manganese and copper.

Ecdisten is a phytoecdysterone with tonic and significant anabolic action extracted from rhizomes and roots of Rhaponticum carthamoides (Willd) Iljin, a herbaceous **perennial plant** from the family **Asteraceae.** Its molecular

mechanism of action is similar to the one of anabolic steroids. It binds to the receptors on the myocyte membrane to be transferred with the cytoplasmic receptors to the cell nucleus to regulate synthesis of nucleic acids which regulate the biosynthesis of protein. Like anabolic steroids, ecdysterones are substances of cumulative effect.

The findings from the follow-up of patients with COPD in the course of therapy with kuvatin and ecdisten and those in the control group can be seen in

By the end of a 3-month therapy with nutraceuticals, frequency of manifestations of asthenization, lack of appetite, physical activity restriction and changes in myocardial metabolism reduced to be more significant in patients who received a combination of kuvatin and ekdisten (Table 1). The nutraceuticals facilitated more significant weight gain, up to 750g and 450g averagely in the 1st and 2nd group of patients, respectively, making the difference in parameters of physical tolerance test and increasing the distance in 6-minute walk test (6MWT) up to 82m and 59m, respectively. No changes in the parameters under study could be seen in the controls.

The nutraceuticals under study had a favorable effect on the clinical course of COPD. Episodes of reinfection and exacerbations could be observed significantly less frequently in patients receiving nutritional support. Thus, the findings from the 3-month therapy demonstrated that episodes of reinfection and exacerbation were registered in 5.7% of patients receiving a combination of kuvatin and ecdisten, in 16% of patients receiving kuvatin only, and in 53.3% of the controls. Duration of clinical symptoms of exacerbation was found reducing to 16.5 and 19.5 days in groups of patients receiving a combination of kuvatin and ecdisten, and only kuvating, respectively, versus 29 days in the control group. Nutraceuticals were found to produce positive effect on the frequency of rehospitalization. Thus, in the group of patients receiving a combination of kuvatin and ecdisten, 2.8% needed hospitalization due to exacerbation of the disease; while it was necessary for 12.0% of patients in the group receiving kuvatin and for 40% of those in the control one.

Three-month follow-up of patients with COPD receiving kuvatin and ecdsiten demonstrated significant increase in absolute lymphocyte count to be the evidence for restoration of immune hemostasis.

As a whole, nutraceuticals had a favorable effect on the health of patients with COPD. As the findings from COPD assessment test (CAT) demonstrated, by the end of 3-month intervention 52% of patients with COPD receiving a combination of kuvatin and ecdisten changed their opinion of the effect COPD produced on a patient's life from significant to insignificant one (10 points), while according to 48% of the patients, the change was from significant to moderate one (20 points). Most patients receiving only kuvatin changed their opinion of the effect from significant to moderate one, while only 5% of the controls did so.

Conclusions:

1. The malnutrition was registered in 42.8% of patients with COPD, 33.3% of the patients needed the nutritional support.

2. The malnutrition of patients with COPD is a multifactorial disorder with the nutritive factor playing a significant role in its onset and progression; a third of the patients were found not to have proper intake of protein, fruits and vegetables, and fluids. 6.7% of patients with COPD found it difficult to eat without assistance due to shortness of breath when eating.

3. As the patients with COPD tended to overestimate both their nutrition status and health status, higher awareness of pulmonologists in diagnosis of malnutrition is mandatory.

4. The nutraceuticals used in the combination therapy for patients with COPD were shown to produce tonic, and what is more significant, anabolic action, to facilitate tolerance to physical loading and to reduce the extent of the effect COPD produced on a patient's life.

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Madzhidova Y. N.,
Donierova F. A.,
Ergasheva N. N.,
Tashkent Pediatric Medical Institute
E-mail: mbshakur@mail.ru

ELECTROENCEPHALOGRAPHIC FEATURES IN CHILDREN WITH EARLY AUTISM

Abstract: Analysis of electroencephalography data taking into account the clinical condition of the patients allowed to identify the relationship of individual EEG characteristics with the features of the structure of clinical manifestations, which can be used as additional markers in the diagnosis of early childhood autism.

Keywords: early childhood autism, diagnosis, clinical manifestations, electroencephalography.

Introduction. Autism is a widespread disease in which there is a defect in inborn behavioral programs that determine speech and social skills, as well as perception and cognitive development. One of the characteristic manifestations of this disorder is the difficulty of social communications. Current epidemiological data estimate the prevalence of autism at 1–2 per 1000 child population [3; 7]. Despite the fact that the electroencephalography method is not the main, but an supplimentary method in the diagnosis of mental and neurological pathology, EEG data in children with autistic disorders in most cases have certain disorders in both typology and the amplitude-frequency structure of basic rhythms [2; 6; 8]. The success of the treatment and rehabilitation of patients depends largely on the early diagnosis of this disease. It is reliably known that at the moment there is no sufficiently effective method to diagnose autism in the very early stages of a child's development. An analysis of the results of electroencephalography is possible for use as an early diagnostic method, since the changes identified during the study appear before the first clinical symptoms appear. In addition, the lack of sufficient social rehabilitation measures in Uzbekistan with regard to patients with childhood autism makes this problem very topical.

Electrophysiological study of children with mental disorders, which is included in the obligatory set of diagnostic procedures, is often reduced only to the identification of epileptic activity. However, electroencephalography (EEG) contains a much larger amount of information, which is extremely useful for assessing the condition of the child, compliance of its EEG with the age norm, for diagnosing syndromic forms of mental disorders, but this information is almost completely ignored in the analysis [1; 4].

Early childhood autism is a serious developmental disorder that is difficult to correct. Nowadays the key moment in the development of autism syndrome is considered as a violation of the normal functioning of ontogenesis of the brain. Distortions of the temporal parameters of the maturation of the nervous system, impaired development of separate zones, as well as the pathology of the white matter were shown. According to the research data of the last decade, it was concluded that in autism there is an underdevelopment of systemic, integrative connections that unite various functional areas of the brain among themselves. The consequence of this is the phenomenon of disintegration of mental processes, which occurs in autism at all levels [4]. Difficulties in diagnosis, insufficient knowledge of the pathogenesis of the disease dictate the need to search for biological markers that indicate the clinical features of patients.Nowadays, numerous data confirming the existence of EEG disorders associated with autism spectrum disorders have been obtained [5].

It is known that age-related changes in EEG in normal conditions are reduced to a decrease in the spectral density (amplitude and index) of the delta and theta rhythms and to an increase in the spectral power of alpha and beta oscillations [3]. In this paper, we analyzed the changes in the amplitude-frequency structure of the main EEG rhythms in children with a diagnosis of early childhood autism.

The **purpose** of the study is to study the relationship of EEG data with the clinical manifestations in children diagnosed with early childhood autism.

Materials and research methods. The study was conducted using clinical, psychopathological and neurophysiological methods.

In a neurophysiological study, a qualitative analysis of the background EEG was performed. To identify the features of EEG rhythms, a group of 24 patients aged 3–15 years were diagnosed with early childhood autism (F84). The average age of the subjects was 10.5 ± 0.2 years.

EEG was recorded in the state of quiet wakefulness with the help of hardware-software complex "Encephalan-131–03". EEG recording was carried out in a monopolar manner using the international system "10% –20%" of the frontal (F3, F4), central (C3, C4), parietal (P3, P4), occipital (O1, O2), front temporal (F7, F8), middle temporal (T3, T4) and posterior temporal (T5, T6) cortical zones (areas of the left hemisphere are indicated by odd numbers, and even areas are the right).

Research findings and their discussion. In the examined group in 100% of cases there was observed a clinical picture in the form of a decrease in psychoverbal activity, lack of eye contact with the interlocutor, emotional lability, inability to establish relationships with peers, lack of socio-emotional reciprocity, absorption of stereotyped and limited interests, increased motor activity.

When the distribution of the dominant EEG rhythm in the group of patients examined, attention is drawn to the absence of the dominant alpha rhythm in all the subjects, the activity index is less than 50%, the disorganized nature of the activity. In 58.33% of cases theta activity in the frequency range of 4–5 Hz is dominated, which may indicate a difficulty in social adaptation.

It is worth noting that there was a relationship between the quantitative measure of the theta rhythm and the seriousness of the condition.

At the height of the clinical manifestations on the EEG, the theta rhythm was expressed in all areas of the cortex and the occipital alpha rhythm was reduced. The appearance of the positive dynamics of the disease was accompanied by a significant reduction of the theta rhythm and a significant increase in alpha rhythm expression.

It was found out that in 16.67% of cases (2 patients) there was an increase in beta activity in the anterior-peloid area, and in the clinical picture this was expressed as the following symptoms: anxiety, marked restlessness, walking around the room during the examination. The beta-2 activity index was increased in all areas of the cortex with a frequency range of 27–34 Hz. The amplitude of the dominant beta rhythm in these patients was 94 μV.

Thus, analysis of EEG data, taking into account the clinical condition of the patients, made it possible to identify the relationship of individual EEG characteristics with the features of the structure of clinical manifestations, which can be used as additional markers in the diagnosis of early childhood autism.

Conclusion:

1. In children with early autism, electroencephalographic data are characterized by the absence of a dominant alpha rhythm, the activity index is less than 50%, which indicates the disorganized nature of the activity.

2. In 58.33% of cases, theta activity dominates in the frequency range of 4–5 Hz, which may indicate a difficulty in social adaptation.

3. In 16.67% of cases (2 patients) there was an increase in beta activity in the anterior periofacial region, and in the clinical picture this was expressed as the following symptoms: anxiety, marked restlessness, walking around the room during the examination.

4. Established EEG characteristics, taking into account the clinical status of patients, can be used as additional markers in the diagnosis of early childhood autism.

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Maksudova N. A.,
assistant of the department
"Public Health Organization and Healthcare Management"
Tashkent Pediatric Medical Institute Tashkent city
Kravchenko L. Sh.,s
assistant of the department
"Public Health Organization and Healthcare Management"
Tashkent Pediatric Medical Institute Tashkent city
Shermatova Z. A.,
assistant of the department
"Public Health Organization and Healthcare Management"
Tashkent Pediatric Medical Institute Tashkent city
E-mail: cool.lolo@mail.ru

SOCIALLY-HYGIENIC ASPECTS OF CARDIOVASCULAR PATHOLOGIES

Abstract: The problem of the diseases of the cardiovascular system remains one of the important problems in medicine and therefore our work reflects the socially-hygienic aspects of this pathological basis on literary analysis.

Keywords: mortality, heart, prevalence, significance.

Cardiovascular diseases are one of the dominant causes of morbidity and mortality in economically developed countries. Despite the fact that in the last decade, due to a significant improvement in diagnostic methods, the introduction of new methods of treatment has made significant progress in the treatment of cardiovascular pathology of childhood, the incidence and mortality rates remain the same. This is due to the fact that the effectiveness of the treatment of most chronic progressive diseases of the cardiovascular system, mainly leading to early disability and mortality at a young age, remains very low.

As the literature data show that the main burden of identifying, clinical examination and treatment of patients with hypertension lies with the doctors of clinics, dispensaries. At the same time, a significant part of doctors, especially primary health care providers, do not have sufficient knowledge of antihypertensive therapy issues.

A significant prevalence of coronary heart disease (CHD) and essential hypertension (EH) in our country, high levels of disability and mortality, prolonged, sometimes lifelong, medication, as well as its high cost, make it necessary to pay more attention early primary prevention of these diseases.

Arterial hypertension is currently the greatest non-infectious pandemic in human history, which determines the structure of cardiovascular morbidity and mortality. The proportion of arterial hypertension among the population aged 15 years and older is about 40%.

According to Russian authors in Russia, 42 million people over 15 years old suffer from arterial hypertension. Of these, half of patients receive therapy, and only 20.0% of patients are adequately treated.

The prevalence of arterial hypertension in childhood and adolescence, according to different authors, varies considerably and ranges from 1 to 14%. In half of the children, the disease is asymptomatic, which makes it difficult to identify, and therefore timely treatment. Children with blood pressure above the average, with age, there is a tendency to its increase.

Clinicians noted that mass studies of blood pressure in the pediatric population also confirm the high incidence of arterial hypertension. The issue of the further fate of children and adolescents with an elevated level of blood pressure is relevant. Long-term follow-up in the country showed a high probability of transformation of hypertension in the pediatric population in ischemic and hypertensive diseases in adulthood, which are the main cause of disability and adult mortality.

Literature analysis also showed that in the second half of the XX century and the beginning of XXI century, diseases of the circulatory system represent one of the major problems of scientific medicine and practical health care of all economically developed countries. The social and hygienic significance of these diseases is determined by the progressive increase in prevalence, severity and outcomes.

The prevalence of circulatory system diseases based on in-depth studies is 5–6 times higher than the official statistics.

This pathology occupies a prominent place in the hospitalized morbidity, demanding the most intensive methods of therapy, long periods of hospitalization. In the last decade, disability in Russia is an important medical and social problem that indicates a critical level of public health.

The authors confirmed that the number of persons with disabilities aged 16 years and older who are registered with the so-

cial protection agencies of the population reached in 1999, 716.9 people per 10.000 people of the corresponding age. By 2000, over 10 million people with disabilities were registered, with a high proportion of people with severe disabilities. According to domestic authors, the proportion of disability accounted for 43.3% to 55% of cases of disability. The growth of primary disability among people of working age continues from 65.2 to 65.3 people per 10,000 of the corresponding age from 1999 to 2002.

According to official statistics, indicators of primary disability among the entire population of Russia were calculated per 10,000 population: in 1998, 76.5; in 2002–82.6 people including on the BSK: in 1998–35.8 people. (46.8% of the total structure); in 2002–40.0 people (48.4% of the total structure). Persons of working age make up to 50% among those initially recognized as disabled.

The authors noted that since the beginning of the 90s of the last century and to the present, Russia has developed a difficult demographic situation, characterized by the depopulation of the population. One of the reasons for this situation is the high mortality rate of the population.

Statistics showed that in 2002 they were 1627.9 per 10,000 population and were the highest in Europe. Over 5 years, the mortality rate in Russia has increased by 20%. At the same time, this dynamics is determined by the increase in mortality of the working age population. Compared to 1998, in 2002, the latter's figures increased by 28% and made up 29% of the total number of deaths.

Diseases of the circulatory system occupy the first place in the structure of the causes of mortality in Russia, amounting to 55–56%. Foreign and domestic authors noted that in the period from 1990 to 2002, according to statistics, its indicators per 100,000 people increased from 618.9 people in 1990 to 913.0 in 2002. And also in the literature it is noted that the mortality rate of the working population of Russia from diseases of the circulatory system is 4.5 times higher than the similar figures for the European Union, in Japan, Canada, and the USA.

It should also be noted that, according to official statistics, for the last 5 years, diseases of the circulatory system in the structure of causes of death for people of working age are second only to accidents, injuries and poisoning. Along with this class of causes of death, diseases of the circulatory system are currently determining the decline in the total life expectancy of the population in Russia. The average age of death among able-bodied men is 50 years. In 2001, the largest increase in mortality from diseases of the circulatory system was registered in the age group from 20 to 29 years. According to experts, mortality from diseases of the circulatory system will increase.

The main reasons that form a high level of disability and mortality from diseases of the circulatory system are hypertension, ischemic heart diseases.

Thus, it can be noted on the basis of literary analysis that the medical and social significance of the problems of cardiovascular diseases has value and is included in the category of the main state tasks of all developed countries of the world.

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Bababekova Nigora Bakhtiyarovna,
associate professor of Tashkent pediatric medical institute
E-mail: otdel.nayka@mail.ru
Khodjaeva Sabri Makhmudovna,
associate professor of Tashkent pediatric medical institute
E-mail: shohidahon69@mail.ru
Nabieva Dilnoza Djuraevna,
assistant of Tashkent pediatric medical institute
Valiev Abduaziz Abdusmatovich,
assistant of Tashkent pediatric medical institute

FEATURES OF CELLULAR IMMUNITY IN PRESCHOOL CHILDREN WITH PSORIASIS BEFORE AND AFTER TREATMENT

Abstract: The article is devoted to the problem of studying the features of cellular immunity in preschool children with psoriasis, before and after treatment. In this study 28 children with psoriasis surveyed, aged 3 to 6 years inclusive. For the control group, comparisons were taken from 12 healthy children of the same age and sex. Personal and family history was thoroughly studied in all patients, general clinical examinations, and immunological methods for studying cellular immunity (CD3 +, CD4 +, CD8 +, CD16 + and CD20 +) were conducted.

It has been found that in preschool children with psoriasis, there is a decrease in the total number of T-lymphocytes (CD3 +), T-helper cells (CD4 +), T-suppressors (CD8 +), and an increase in B-lymphocytes (CD20 +), natural killer cells (CD16 +) and immunoregulatory index. After therapy, an increase in the level of CD3 +, CD20 +, CD4 + and CD8 + immunoregulatory lymphocyte subpopulations is noted. At the same time, the inclusion of immunomodulating therapy contributes to the normalization to the control values of the indices CD4 + and CD8 + of immunoregulatory lymphocyte subpopulations.

Keywords: children, cellular immunity, lymphocytes, immunomodulating therapy, index.

Relevance. Psoriasis is one of the most common diseases of the skin of childhood and ranks second in terms of incidence after atopic dermatitis [1; 3], its share in the structure of pediatric dermatoses ranges from 1 to 8% [4].

In recent years, the problem of psoriasis is of particular importance in connection with the increasing incidence of the disease among children, especially preschool and older, an increase in complicated forms and torpid with respect to treatment [2]. The clinical course of psoriasis in childhood, unlike adults, has its own characteristics; therefore, it is important to study the characteristics of the clinical course of psoriasis in children, taking into account the age aspect [6].

In the multifactorial pathogenesis of psoriasis, the violation of the immune mechanisms takes the leading place [5; 7]. However, objective and informative immunological criteria for assessing the nature of the course of psoriasis in children, prediction and its outcomes have not yet been developed [1; 8]. In this regard, the topicality of studying immunity, in particular cellular immunity in children with psoriasis, is still relevant.

Materials and methods. The studies were conducted on the basis of the pediatric dermatology department of the Tashkent pediatric medical institute clinic. 28 children with psoriasis, aged 3 to 6 years inclusive were examined. Of these, there were 18 girls (64%), and 10 boys (36%). For the control group, comparisons taken from 12 healthy children of the same age and sex.

Before starting the study, written permission for the examination taken from the parents or from the guardians of all the examined children. Personal and family history was thoroughly studied in all patients with psoriasis, general clinical examinations (blood, urine, feces, biochemical studies) were conducted, the children were consulted by a pediatrician, neuropathologist, ENT, ophthalmologist, dentist and, if necessary, by other specialists. All patients received inpatient treatment, treatment was prescribed taking into account the age, stage, severity and clinic of the disease. After treatment in the hospital, sick children were regularly (at least once a month) observed on an outpatient basis for 3 years.

Immunological methods for studying cellular immunity included determining the total number of T and B-lymphocytes, their subpopulations (CD3, CD4, CD8 and CD20). At the same time, from the total number of lymphocytes, the determination of the percentage of T-lymphocytes performed in the reaction of indirect rosetting (PHRO), respectively, by the detection of populations and subpopulations of

T-lymphocytes and B-lymphocytes. The study of the nature of changes in the indices of CD4 + and CD8 + subpopulations of T-lymphocytes was carried out with the calculation of the immunoregulatory index (IRI).

Depending on the therapy, the patients divided into age categories, divided into 3 groups: the control group and the two studied groups. In all groups, the subjects were of similar age and gender. I-st study group (I-SG, n = 13) – traditional medical therapy was carried out to the patients, according to the standard of treatment including antihistamines, sedatives, hyposensitizing, hepatoprotective therapy, as well as calcium preparations and vitamin preparations. As a local therapy, 1–2% salicylic and boric acid ointments, corticosteroid creams and ointments prescribed.

II-nd studied group (II-SG n = 15), in addition to the standard basic drug therapy, patients were additionally prescribed an immunomodulator of polyoxidonium® (Polyoxidonium) for use in pediatrics, 6 mg 2 times a day. The duration of treatment was 10 days. The obtained data subjected to statistical processing on a Pentium-4 personal computer using the programs developed in Excel 2013.

Results and discussion. The clinical course of psoriasis, in childhood, in contrast to adults has its own characteristics. According to the results of anamnestic data collection, the duration of the disease ranged from 3 months to 4 years. In 7(25%) mothers observed by our patients, the pregnancy was normal, in 21(75%) with toxicosis and threatened miscarriage, in 19(68%) women anemia was observed during pregnancy. Most of the children (90%) were born on time, without complications. Asphyxia observed in 2% of children at birth, and birth trauma in 1%. According to the results of the study, in children, the psoriatic process begins suddenly with the appearance of single, sometimes multiple eruptions, within limited areas. The primary elements of the rash were round-oval papules, covered with silver-white scales, pink lentil-sized. At the same time, psoriatic lesions were more often located on the scalp (77.3%), body (79.1%), upper (91.8%) and lower extremities (90.0%), less frequently on the face (33.6%) and folds (2.7%) and the process mainly proceeds in the form of a vulgar form (86.4%), while the eruptions had a drop-like (36.4%), nummular (10.9%) and plaque (39.1%) form.

Hospitalized patients had a degree of severity: mild in 1(3.6%) patient, moderate – 14 (50%) and severe in 13(46.4%) patients. During the study of the cellular immunity markers, it was noted that in patients with moderate form of the disease, before treatment, a decrease in the total number of peripheral blood CD3 + T-lymphocytes was observed (49.09 ± ± 0.90 against 63.43 ± 0.59 in healthy). While the total number of B-lymphocytes (CD20 +) was at significantly high levels (18.36 ± 0.90 versus 11.50 ± 0.33 in healthy ones), ($P < 0.05$). This was confirmed by indicators of the suppression and induction index and was expressed by ↓ EC = 1.29 and ↑ AI = 1.60 values, respectively. Before treatment, patients with immunoregulatory T-cell subpopulations showed a decrease in the level of CD4 + (30.73 ± 0.51 vs. 33.64 ± ± 0.58 in healthy), CD8 + (15.73 ± 0.38 vs. 20.71 ± 0.67 in the healthy) and, accordingly, an increase in the immunoregulatory index (IRI = ↑ 1.22), ($P < 0.05$). Accordingly, confirming these changes, an increase in the number of natural killer cells (CD16 +) was noted with the AI induction index = ↑ 1.28.

Thus, in children with psoriasis in preschool age with a moderate form of the disease in the period of exacerbation before treatment, a significant decrease in CD3 +, CD4 +, CD8 + and an increase in the level of CD20 +, CD16 + and IRI are observed.

In the group of patients with a severe form of the disease before treatment, the total level of T-lymphocytes was reduced (50.43 ± 0.71 versus 63.43 ± 0.59 in healthy), the B-lymphocyte count in an elevated state (17.52 ± 0.55 vs. 11.50 ± 0.33) compared with healthy children. The suppression index and induction index were within the SI = ↓ 1.26 II = = ↑ 1.52 values. The number of natural killer cells (CD16 +) was increased (19.22 ± 0.66 patients; 14.40 ± 0.12 healthy), respectively, the induction index was II = ↑ 1.33 values. The levels of CD4 + and CD8 + were also reduced (31.57 ± 0.45 and 15.52 ± 0.34 patients; 33.64 ± 0.58 and 20.71 ± 0.67 healthy) and, accordingly, the indicator of immunoregulatory index was significantly increased (IRI = ↑ 1.29).

Thus, in children with psoriasis in preschool children with a severe form of the disease during the exacerbation period before treatment, there was a decrease in CD3 +, CD4 +, CD8+ + and an increase in the level of CD20 +, CD16 + and IRI; however, these values did not differ significantly from those of the moderately severe group.

As result of the treatment in children with moderate severity of the disease at the end of 3 weeks, the CD8 + and IRI scores reached the healthy children (II = 1.28 and ↑ II = =1.27, respectively). However, the values of these datas differ significantly from those of the control group, i.e. remained lower or higher values. The total index of suppression and the total index of induction compared with the control group were, respectively, ↓ TIS = 1.01 and ↑TII = 1.02 values. It can be concluded that after rational therapy was carried out in children, patients with psoriasis with moderate form, there was a positive change in the immune status, expressed as an increase in CD3 +, CD4 +, CD8 +, a decrease in the number of CD20 +, IRI, CD16 +. At the same time, the indices of CD8+ and IRI were within the control values. In children with a moderate form of the disease, after the traditional therapy was

carried out, there was an increase in the overall level of CD3 +, CD20 +, CD4 + and CD8 + and a decrease in IRI and CD16 + cells as compared to before treatment.

In the severe form of psoriasis, after traditional therapy, an increase in the total number of T-lymphocytes (CD3 +), subpopulations of CD4 + and CD8 +, a decrease in the total number of B-lymphocytes (CD20 +) and the level of CD16 + + was noted. Despite the positive dynamics, these indicators of the immune system in this group of patients differed from normal values. It should be noted that in these patients after rational therapy on the part of immunological parameters, normalization of indicators observed on the part of CD4 + +(33.64 ± 0.58 healthy, 33.74 ± 0.46 after treatment) and CD16 + (14.40 ± 0.12 healthy, 14.65 ± 0.36 after treatment). At the same time, the total induction index was within the limits ↓ TII = 1.00 and ↓TII = 1.01 values. The total number of CD3 + T-lymphocytes, the level of CD8 + content tended to increase, the total number of B-lymphocytes (CD20 +) tended to decrease, however, these values remained higher than those of the control group.

Thus, in severe psoriasis disease in children after the therapy, it was observed increase of CD3 +, CD4 + subpopulations and CD8 +, decrease CD20 +, CD16 +. After rational therapy from CD4 + and CD16 +, normalization of indicators was noted. However, this downward trend has slowed down, and this again confirms the focal depth of organ damage in this age group.

Conclusions. In preschool children with psoriasis, there is a decrease in the total number of T-lymphocytes (CD3 +), T-helper cells (CD4 +), T-suppressors (CD8 +), and an increase in B-lymphocytes (CD20 +), CD16 + natural killer cells and immunoregulatory index. After therapy, an increase in the level of CD3 +, CD20 +, CD4 + and CD8 + immunoregulatory lymphocyte subpopulations is noted. At the same time, the inclusion of immunomodulating therapy contributes to the normalization to the control values of the indices CD4+ + and CD8 + of immunoregulatory lymphocyte subpopulations.

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Mamedova Guzalya Bakir qizi,
doctoral candidate PhD.,1 year of study
of the Department of public
health and health management,
Tashkent pediatric medical Institute Uzbekistan, Tashkent

Muminov Davron Kodyrovich,
assistant of the Department of "Faculty internal diseases,
military field therapy, occupational diseases,
hospital internal diseases and propaedeutic of internal diseases"
of Tashkent pediatric medical Institute, Uzbekistan, Tashkent
E-mail: baron-codli@mail.ru

OPTIMIZATION OF MARKETING IN HEALTH INSTITUTIONS

Abstract: The analysis of available literature has shown that marketing in health care is currently in its infancy and it is of particular importance to determine the most effective ways to promote medical services on the market [2]. This is a difficult way of evolutionary development, overcoming numerous difficulties and contradictions, accumulation of experience. And the sooner positive experience becomes available to doctors, heads of health care institutions, the more successfully will be overcome the difficulties and serious shortcomings relating to the most important value of society – human health [4]. The publication presents the results of the analysis of the effectiveness of marketing principles in medical institutions.

Keywords: marketing, medical institutions, management, medical services market.

The main priority of the state policy of the Republic of Uzbekistan at the present stage is to preserve and strengthen the health of the population. Health care reforms carried out in recent decades are aimed at the development of the industry and are associated with the desire of the country's leadership to improve the health management system through the implementation of a set of measures aimed at improving the quality of medical care, which is implemented through a variety of mechanisms, including resource, personnel, regulatory and legal support of the industry, as well as improving the management of the industry [1]. Finding ways to improve the quality and effectiveness of health care has been a key challenge for many years. All this was reflected in the development of a variety of system solutions, government programs, major projects, changes in the system of legal regulation, control and licensing mechanisms and other measures [4]. At the same time, it has to be noted that such large-scale transformations in the industry against the background of their significant resource provision have not led to a significant improvement in the quality of medical care. However, it is obvious that against this background, the most important factor in improving the quality and accessibility of medical care is the use of adequate management systems at all levels. All these years, the scientific search for ways to improve the efficiency of the health system continues. In the works of domestic and foreign experts more and more visible innovative guidelines for the development of the industry, based on modern methodology of management and quality of care [5]. Marketing activities in health care is a system of studying the needs and demand in order to organize the production and provision of health services aimed at meeting the needs of consumers and providing effective forms and methods of sales and service. The essence of medical marketing as a specific form of medical care in the field of market relations is the pricing policy, the promotion of medical services in the market to the patient (consumer), activities for the implementation of these services. Thus, marketing of medical services has its own distinctive features associated with the specifics of consumer demand and the market of medical goods and services. Institutions providing medical services, it must be remembered that medical services – a kind of useful activity that does not create wealth, they usually do not lead to the possession of anything. Therefore, it is necessary to increase the tangibility of the service using various marketing activities. Health-care institutions operate in the public and non-public spheres, and regardless of their form of ownership, they should use marketing based on both commercial and non-commercial principles. The market of medical services in Uzbekistan has undergone significant changes in recent years: along with public health institutions providing free and paid medical services, the role of private medical companies is becoming more noticeable. What are the features and trends in the sphere of medical services, how public and private medical institutions will relate and interact, what development strategy they should choose,

including in the context of the exceptional social significance of this sphere – these issues are now facing both the state and the managers of medical institutions and affect almost everyone: each of us can become a doctor's patient. Since the end of the 50–60s of the last century, when the scientific and technical revolution began to actively invade the field of medicine, began the process of diversification of medical services based on the development of new medical technologies. Along with the traditional branches (therapy, surgery, Pediatrics, obstetrics and gynecology), specialized medicine (cardiology, cardiovascular surgery, Oncology, urology, ophthalmology, radiology, etc.) began to develop, and in the 70–80 s – highly specialized high – tech medicine (Oncology, Transplantology, various types of endosurgery-endovascular, endobiliary, etc.). All this has dramatically increased the effectiveness of interventions, but the cost of services has steadily increased. Along with great achievements and benefits for society, medicine has proved to be a heavy burden for him – the share of GDP spent on health care has increased. So, if in the US health care costs in the early 60 s were 6–7% of GDP, by the end of XX – beginning of XXI century they reached 15–16%. Unfortunately, the level of health of the population did not change in proportion to the costs of society – health care costs began to break away sharply from the results. In connection with this situation in most countries of the world in the further development and reform of national health systems, the introduction of new medical technologies, new models of organization and financing of health care has become a fundamental principle of cost-effectiveness. Back in the twentieth century, in many countries, there is a need for active use of marketing in almost all industries and activities, in particular, in the field of health. The healthcare industry includes sellers and buyers of medical products and services, suppliers and consumers of medical information, regulatory and self-regulatory bodies, business structures, state enterprises and public associations [6]. The main function of the infrastructure of the health care industry is to provide the necessary conditions for the normal implementation of health, medical, diagnostic and health-prevention processes. Thus, the author points out that the manufacturer of medical services is the main participant of the health care industry, it cannot exist without infrastructure [2]. Health care reforms carried out in recent decades are aimed at the development of the industry and are associated with the desire of the country's leadership to improve the health management system through the implementation of a set of measures aimed at improving the quality of medical care. These measures are implemented through a variety of mechanisms, including resource, personnel, regulatory and legal support of the industry, as well as improving the management of the healthcare industry [3]. In turn, the use of marketing in health care helps to optimize the activities of medical institutions in the sense that it helps health institutions to plan their activities most efficiently. According to the Decree of the President of the Republic of Uzbekistan from 1.04.2017 year № PP-2863 "on measures for the further development of the private health sector" only in the last 6 years, the number of private medical organizations has increased by 2 times and reached 3.5 thousand, their equipment with high-tech medical equipment has increased by 3 times. The most developed specialization of private medical organizations in the field of dentistry, laboratory diagnostics, therapy, physiotherapy, neurology and others. At this stage, it is particularly important to determine the most effective ways to promote medical services on the market. The market of services in the field of medicine has reached a high level of competition, requiring its participants to constantly work to attract and retain customers. It is known that marketing – makes it possible to predict the turnover, to study the needs of the market of medical services, the use of marketing research makes it possible to determine what services will find demand from the consumer, how much the consumer is willing to pay for it and whether he is willing to pay at all or not. In order for this to become possible, it is necessary to create marketing departments in each health facility with specially trained marketing specialists who would take into account the opportunities and barriers of the medical services market and contribute to the harmonious development of medical institutions in the country in a market economy. Thus, all of the above makes relevant and promising further study of the marketing service in health care institutions of the Republic of Uzbekistan [6]. **Purpose of research.** Study of the activities of the marketing service in health care institutions of the Republic of Uzbekistan with the development of recommendations for its further improvement.

The results of the study. Installed the advantages and disadvantages of implementation of service marketing in the health care system showed that existing sufficient amount of time on the market, private medical institutions apply the principles of marketing as an integral part of the development of the market of medical services. Managers of private medical institutions, it was noted that they should apply the marketing functions (noted 94%), but not always, they seek this help from professionals in marketing or consulting company to provide marketing services (market analysis of medical services, marketing research, demand analysis and proposals, advertising and promotion of goods or services and many other functions). If you go directly to the marketing of health or marketing in healthcare, we can note the significant growth of interest from institutions working in this area for marketing. Of course, we cannot say that the calving of marketing exist in all private clinics of the Re-

public of Uzbekistan, but the working position – marketing (35%), marketing Manager (28%), marketing specialist (22%), analyst (27%), and often is. More often, or almost always (98%), marketing is present in the pharmaceutical companies, especially in the representative offices of foreign pharmaceutical companies (100%). The experience of foreign pharmaceutical companies has shown high efficiency of marketing, especially in such a highly competitive business as a pharmaceutical. If you compare the level of development of the marketing of pharmaceutical companies and medical institutions that provide medical services, this comparison is not in favor of medical institutions. Another aspect of determining the effectiveness of the application of the principles of marketing in the private health sector had knowledge of the leaders in this field. Knowledge of definitions of marketing heads of institutions in 72% of cases were not complete, in connection with what is important in the development and implementation of marketing principles in medical institutions of Uzbekistan, which will help to make private clinics medical market is competitive, efficient use of resources.

The conclusions. The work of medical institutions in the market conditions can change dramatically, and under the influence of various factors that be taken as a positive result (profit) or negative (loss). The role of the state in this scheme is limited to the creation of conditions for the existence of the market for medical services and protection of the rights of their consumers, so the state provides a guaranteed minimum of medical care for all citizens and pursues a policy aimed at full satisfaction of social needs of the population. And for this to happen it is necessary to promote the creation and development of marketing in health care with specially trained professionals marketers, which would take into account the possibilities and barriers of the market of medical services and contributed to the harmonious development of medical institutions in the market.

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Matyakubova S. A.,
Ruzmetova D. T.,
Urgench branch of the Tashkent Medical Academy
E-mail: mbshakur@mail.ru

RISK FACTORS OF DEVELOPMENT OF PRETERM PREMATURE RUPTURE OF FETAL MEMBRANES IN PREGNANT WOMEN

Abstract: Preterm premature rupture of fetal membranes (PPROM) occurs in approximately 3% of pregnancies. PPROM is associated with maternal and fetal pathologies, contributing to the birth of premature infants. The longer the time elapsed between rupture and delivery, the greater the chance of infection for both mother and fetus. Risk factors for the development of SRD are various, often combined pathological processes that occur before or during gestation. Births with this obstetric pathology are 2.5 times more likely to require operative delivery, complicated by anomalies of labor, an increase in the incidence in the perinatal period as compared with patients with timely amniotic fluid.

Keywords: pregnancy, premature ruptures of membranes, risk factors.

Premature rupture of membranes (PPROM) is one of the most important problems in obstetric practice. According to some authors, births complicated by RDS in full-term pregnancy range from 8.2% to 19.6%, and for premature births (up to 37 weeks of gestation) range from 5 to 35% [3; 6]. Similarly, different authors note that up to 20–32% of a pro-SPD has a tendency to re-develop in subsequent births [1; 5]. According to the American College of Obstetricians and Gynecologists, rupture of the membranes during pregnancy up to 37 weeks complicates in 2–4% of pregnancies with one fetus and 7–20% with multiple fetuses [7; 8].

An incorrect diagnosis of premature rupture of the fetal membranes of pregnant women can lead to unreasonable actions (for example, hospitalization or early delivery), and late diagnosis leads to a delayed reaction of obstetricians and the growth of infectious and inflammatory complications. We must not forget that the management of pregnancies complicated by PPROM is very expensive [2; 4].

Objective: to analyze the outcomes of pregnancies complicated by PPROM in 24–37 weeks, depending on the duration of the latent period and the timing of gestation.

Materials and research methods: a clinical and anamnestic analysis of 131 pregnant women with PPROM, fetuses and newborns was conducted, as well as the course of pregnancy and premature labor during the spontaneous development of labor in the 24–37 week of pregnancy (main group). Postnatal outcome of newborns traced to discharge from the hospital. The control group consisted of 30 women with a physiological pregnancy in the period from 37 to 40 weeks.

A comparative analysis of the outcome of pregnancy was carried out depending on the duration of pregnancy at the time of discharge of the amniotic fluid and the length of the anhydrous period in three intervals: (1) – up to 48 hours, (2) – from 48 hours to 168 hours and (3) – 168 hours or more.

Upon admission, we conducted patients with a comprehensive clinical and laboratory examination, microscopic analysis of the vaginal flora, and bacteriological culture of the contents of the cervical canal to determine sensitivity to antibacterial drugs.

Results of the study: the analysis of social, anamnestic, clinical and laboratory data and the characteristics of the course of this pregnancy allowed us to identify a number of reliable risk factors for PPROM in the middle of the 2nd beginning of the 3rd trimester of pregnancy.

The largest number of pregnant women (49.6%) with premature rupture of the amniotic fluid was between 31 and 35 years old, i.e. in late reproductive age. At the same time, a significant percentage (15.3%) of pregnant women with PPROM is at the age of 16–18 years old, although it is obvious that the frequency of births at this age is much less than in other age groups. Probably, this fact is associated with insufficient adaptation of the body of a pregnant woman to various pathogenic factors and stresses in this age period.

When analyzing the socio-demographic factors, we found that every second woman in the group with OSPA was between the ages of 31 and 40 years (52.3%), which was significantly more frequent than in the group with amniotic fluid amid the birth activity (29, one%). According to our data, the age of mothers up to 18 years and over 30 years is a risk factor in relation to the outpouring of water before the onset of labor.

The risk factors for PPROM should include a high incidence of sheath rupture and preterm labor in history ($r = 0.684$; $p < 0.05$).

In the structure of chronic pathology of pregnant women, the overall frequency of which was about 60.3%,

iron deficiency anemia is closely associated with PPROM. Indeed, iron deficiency, which is a cofactor for various enzymes, including metalloproteinase of the fetal membranes, may play an important role in the genesis of their structural degradation and rupture.

Closely associated with inflammatory diseases of the genital tract, in the first place, endometritis in history (84.7%). In pregnant women with PPROM, bacterial vaginitis was significantly more common (69.5%).

An analysis of the course of pregnancy showed that one of the most significant risk factors for CRD should be considered an acute respiratory viral infection in the first trimester of pregnancy, the frequency of which in pregnant women of the main group was 28.2%, whereas in the control group this figure was only 10% ($P < 0.05$).

Conclusion: our data confirm the predominant importance of genital and respiratory infections in the genesis of the prostate cancer. The analysis of perinatal outcomes with prolonged prolongation of pregnancy showed that with PRPT up to 25 weeks of gestation, the perinatal outcome is extremely unfavorable and is not related to the duration of the latent period.

High risk of purulent-septic complications of the mother, low survival rate of newborns, due to the deep morphofunctional immaturity of children, as well as severe systemic pathology due to intrauterine infection (IUI), suggest expectant management of pregnancy, complicated by CRCP, under the control of the possible implementation of purulent-septic infection.

Prolonging pregnancy after 25 weeks leads to a significant reduction in early neonatal mortality, primarily due to severe forms of SDR, and a simultaneous increase in antenatal losses associated with unfavorable conditions of fetal development due to intra-amniotic infection and lack of water, and the lack of reliable criteria for critical state fetus, adverse perinatal outcome in general, and, as a consequence, untimely delivery.

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Mirrahimova Maktuba Habibullayevna,
associate professor of the Department of Children's Diseases № 1
Tashkent Medical Academy

Khalmatova Barno Turdihadjayevna,
professor, head of the Department of Children's Diseases № 1
Tashkent Medical Academy

Tashmatova Gulnoza Aloyevna,
assistant of the Department of Children's Diseases № 1
Tashkent Medical Academy, Uzbekistan
E-mail: Tashmatovagulnoza@gmail.com

PREVALENCE OF BRONCHIAL ASTHMA IN CHILDREN OF AN INDUSTRIAL REGION IN THE USBEKISTAN

Abstract: The article presents the results of the ISAAC questionnaire to assess the prevalence of bronchial asthma among children aged 7–8 and 13–14 living in industrial regions of Uzbekistan. 2500 pupils from 4 regions took part in the survey. Before the study, BA was diagnosed in 2.3% of children of school age (23 per 1000 children). After the survey, the prevalence of clinically diagnosed BA in children of school age increased almost 3 times and averaged 6.6%.

Keywords: children, questioning, ISAAC, prevalence, bronchial asthma.

Actuality. All over the world, including Uzbekistan, there is a tendency to an increase in the incidence of asthma and its more severe course. Epidemiological studies indicate that from 4 to 8.2% of the population suffers from bronchial asthma in different regions of the world [1; 2]. At the same time, the frequency of bronchial asthma in the adult population varies within 5%, and in the pediatric population it rises to 5–12% [3]. Epidemiological studies conducted using various methodological techniques indicate that the true prevalence of bronchial asthma among children significantly exceeds the official statistics. Thus, for example, epidemiological studies conducted on the basis of studying the appealability of patients to medical treatment and preventive institutions do not reflect the true picture of asthma prevalence, since not all cases of asthma are recorded. The most reliable and comparable data on the prevalence of atopic pathology in assessing the structure of the disease by severity in many countries of the world were obtained in connection with the implementation of the ISAAC program [6].

It is known that the health of the population, including children, is influenced by climatic, geographical, social, endemic and, to a large extent, environmental factors, there is information about the influence of man-made environmental pollutants on the pathology of the bronchopulmonary system in children [1; 4; 6]. Meanwhile, in each region there are different technologies and volumes of production, almost unique by types, as well as by levels of anthropogenic impact on the environment and the human body, which must be considered when conducting epidemiological studies and studying the characteristics of the course of diseases [5; 6]. So far, in the industrial regions of the Tashkent region (Uzbekistan), the epidemiological studies of the ISAAC program have not been conducted, the risk factors and features of the course of bronchial asthma among children have not been studied.

Purpose. To study the prevalence of bronchial asthma in children of school age living in industrial regions of the Tashkent region.

Materials and methods. We conducted a survey of 2500 children, aged 7–8 years and 13–14 years. The study was conducted in two stages: Stage I included conducting a survey on the ISAAC questionnaire adapted to our conditions and translated into Uzbek. The survey was conducted in three regions of the Tashkent region – Angren, Almalyk, Chirchik. The reason for conducting research in three regions of the Tashkent region was the fact that several industrial facilities are located in these regions. For example, in Almalyk there is a large industrial holding AGMK (Almalyk Mining and Metallurgical Combine), where zinc is periodically released into the water. In Chirchik, there is a large industrial holding company, Uzneftegazmash, which manufactures technological equipment for the chemical industry, and chlorine vapor is periodically released into the atmosphere. In Angren, the metallurgical industry is located, where large quantities of aluminum are emitted into the soil. For comparison, a survey was conducted among children living in an ecologically more favorable region (Tashkent).

High school students filled out the questionnaires themselves, for the first graders of the questionnaire filled out parents.

Phase II of the survey (clinical, functional and allergological studies) was conducted for children who gave positive answers to questionnaire questions.

The results of studies on the ISAAC program in children in the age group of 13–14 years. To the question "Have you had wheezing breath or whistling in your chest in the last 12 months" there was a wide range of positive responses between regions – 15.3%; 9.7%; 8.9% and 2.4% in Tashkent. Positive answers to the questionnaire's 3 questions regarding the severity of asthma-like symptoms (difficulty wheezing with a frequency of 4 or more times a year, a severe attack of breathlessness and night symptoms more than 1 time per week) indicated a severe persistent course of the disease. Episodes of wheezing wheezing with a frequency of 4 or more times a year fluctuated according to the respondents' answers from 18.7% in the Tashkent region, and 7.2% in the city of Tashkent (a difference of 2.6 times). The frequency of sleep disorders due to attacks of difficulty wheezing, wheezing more than 1 time per week ranged from 4.7 to 1.3% (the difference is 3.6 times). Severe episodes of wheezing during the last 12 months were observed with a frequency of 9.2 to 0.4% (a difference of 23 times), the largest percentage was observed in the regions of Angren (10.2%) and the Almalyk region (6.4%). Symptoms of bronchospasm during exercise were observed with a frequency of 16.7 to 2.8% (4.7 times difference).

Bronchospasm for physical exertion and dry nighttime cough during the last 12 months was determined more often than shortness of wheezing in the last 12 months in most of the regions examined. The proportion of children who responded positively to the question about the presence of a dry night cough ranged from 20.9% to 2.7% (a difference of 7.7 times). More than 19% of teenagers from Angren, Almalyk and Chirchik answered this question positively.

97 schoolchildren of the Tashkent region answered positively to the question of the questionnaire "Have you ever had bronchial asthma?" More than 3.1% of this figure was in the city of Tashkent.

The results of the survey revealed that in children aged 13–14 years more often (92.7%) than in children aged 7–8 years (79.2%), asthma-like symptoms such as fits of wheezing and sleep disturbance occurred. for wheezing, difficulty wheezing and wheezing with speech restriction, the presence of shortness of breath during exercise and dry, not associated with the common cold, cough at night, as well as diagnosed with asthma.

The results of studies on the ISAAC program in children in the age group of 7–8 years. In this age group, parents of 976 first-graders from 4 regions took part in the survey. There was a wide range of responses between different regions to the question of the prevalence of shortness of wheezing over the past 12 months – from 12.1 to 3.2% (a difference of 3.7 times). The prevalence of this symptom is more than 10% was determined in Angren.

The frequency of wheezing wheezing episodes with a frequency of 4 or more times per year ranged from 8.2 to 3.6% (a difference of 2.3 times); a level of more than 5.2% is registered only in Angren.

The frequency of sleep disorders in connection with the attacks of difficulty wheezing wheezing more than 1 time per week ranged from 3.1 to 0.9% (a difference of 3.4 times). The level of this indicator is more than 2.9% defined in the Almalyk region. Severe episodes of difficulty wheezing with speech dyspnea over the past 12 months have been observed with a frequency of 6.3 to 0.4% (15.7 times the difference); the highest rate was recorded in Almalyk – 4.4%.

Symptoms of bronchospasm during exercise were observed with a frequency of 7.1 to 0.3% (a difference of 24.7 times). The frequency of this symptom is more than 5% defined in Chirchik and Almalyk.

The proportion of parents of children who responded positively to the question about the presence of dry night cough, ranged from 10.9 to 2.3% (the difference is 4.7 times). At the same time, the frequency level of this indicator is more than 9.3% recorded in the responses from parents of first-graders from Angren, Almalyk and Chirchik.

951 parents of first-graders responded positively to the question of the questionnaire "Did your child ever have bronchial asthma, the percentage varied by region from 5.2 to 0.6% (the difference is 8.6 times); the highest value of this indicator is noted in Angren (5.7%).

Discussion: Before an epidemiological study on the ISAAC program in practical health care facilities in the Tashkent region, BA was diagnosed in 2.3% of children of school age (23 per 1000 children). After the ISAAC survey, the prevalence of clinically diagnosed BA in school-age children increased almost 3 times and averaged 6.6% (66 per 1000 children). When comparing these indicators, the hypnosis of asthma becomes apparent. When comparing the prevalence of the disease depending on gender, no significant differences were found in children aged 7–8 years. However, girls aged 13–14 years, compared with boys of this age group, more often had shortness of breath on exertion and a dry, not associated with a cold, cough at night.

Conclusions

1. Clinically diagnosed on the basis of the ISAAC program, asthma among schoolchildren in industrial regions at the age of 7–8 years was 3.6 ± 0.7%, at the age of 13–14 years – 9.7 ± 0.8%. The true prevalence of BA among children in the Chirchik, Almalyk, Angren regions averaged 6.6%, which is almost 3 times higher than the official statistics (an average of 2.3%).

2. Despite the relatively high specificity and sensitivity of each question, for the final diagnosis, an in-depth clinical, functional and allergological examination is required based on generally accepted clinical guidelines.

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Mirsaidova Hilola Mirjalalovna,
Assistant of the Department of public health and health management,
Tashkent pediatric medical Institute
E-mail: baron-codli@mail.ru

THE USE OF MODERN INFORMATION AND COMMUNICATION TECHNOLOGIES INTO DIAGNOSTIC PRACTICE

Abstract: This publication reveals the main advantages of the use of information and communication technologies in the health care system. A brief history of information and communication technologies in medicine. The results of the use of information and communication technologies in the practice of a doctor for early diagnosis and prevention.

Keywords: information and communication technologies, diagnostics, prevention.

A standardized approach to the organization of the health care system, aimed at improving the effectiveness of management and diagnostic and treatment solutions in medicine, requires the use of new tools. Information and communication technologies (ICT) occupy leading positions in this field both at the global and local level [4].

The global strategy "Health for all in the twenty-first century", launched by the world health organization (who) in 1998, outlined ways to develop information technologies in medicine:" National and local health information systems are a prerequisite for the development and monitoring of effective, effective and equitable health policies that ensure equitable access" [6].

Currently, information and communication technologies have made a massive transition from certain areas of "high-tech" medicine to conventional medical practice.

Information technology in health care is in the processing of medical information, including use as computer hardware and software that provides storage, retrieval, and use of data and knowledge of a medical nature. Information technology in health care is a branch of knowledge of the science of information, its practical application and development of information systems. Informatization is the basis of scientific research and practical applications of computing and communication technologies for health care, health education and biomedical research. The information technology tools in health care include not only computers but also clinical guidelines, formal medical terminologies, information and communication systems, United in the database.

In recent years, the quality of data has become an important issue not only because of their importance in promoting high standards of treatment and care for patients, but also because they have an impact on the public budget, including the cost of health services. It is obvious that the actual problem of modern health care, defining aspect in achievement of efficiency of its branches, is Informatization – creation of the uniform information space including all interested parties: patients, medical workers, the organizations and bodies of management of health care.

According to the research, unlike doctors and health care providers, patients are more positive about the process of Informatization and are more waiting for radical changes in the application of information and communication technologies in the Internet environment in the field of health care. For patients, new technologies can also greatly facilitate all stages associated with the treatment and visits to medical institutions, and modern gadgets and portals for patients up to 35 years are already an integral part of any sphere of their lives.

There is convincing evidence of more effective public health protection in the application of additional opportunities in the form of ICT [7], with an emphasis on the active participation of the patient in the implementation of this task. The positive experience of clinical use of information technologies worldwide has allowed to transfer medicine to a qualitatively new level, successfully contributing to the reduction of the number of hospitalizations, complications, adverse outcomes, as well as socio-economic benefits and improvement of quality of life [5]. It is proved that the increase in the effectiveness of preventive, therapeutic and rehabilitation measures is achieved through dynamic monitoring of patients in the form of long-term monitoring, control and correction of key parameters of the human body, preventive measures, ensuring the safety of home rehabilitation measures. Taking into account the peculiarities of the disease course can significantly improve the efficiency and safety of decisions [3]. It is noteworthy that the increased accessibility of medical care to patients with disabilities, as well as the overcoming of territorial and temporary barriers between health workers and the population of remote regions lead to clinical and socio-economic benefits for patients and the state as a whole [1].

A number of large clinical studies [3] have obtained data on the effectiveness of clinical use in certain branches of

medicine of various types of ICT: remote monitoring of the main functional parameters of the body (blood pressure, heart rate, blood glucose, etc.), telemedicine counseling, monitoring of rehabilitation measures at home, specialized systems to support medical decisions. All these are options for solving the problems of individual approach to patients, based more on the studied patterns, rather than intuition and experience of the doctor. Remote telemonitoring generally has unlimited possibilities and is also implemented in the control of implantable devices – pacemakers and implantable cardioverters-defibrillators, providing data transmission on the functioning of the system, as well as extensive information about the patient's condition [1].

Statistics show that by 2020 elderly citizens will make up to 25% of the world population [2], i.e. draws attention to the problem of "aging of the population". As people approach retirement age, they enter a period of life associated with a high risk of economically costly and life-threatening chronic diseases. An important component of health control in this case may be the monitoring of physiological parameters of patients related to the prevention and long-term treatment of diseases, as well as the organization of telemedicine Advisory support, which, in turn, promotes closer communication between doctors and patients, developing in the latter a sense of "security" (patient satisfaction with communication with doctors) and increasing compliance [5]. A recent randomized controlled trial on the use of telemedicine in the individual management of elderly patients showed improved control of blood glucose levels in diabetes mellitus in regions recognized as "underserved" in new York state (USA) [1]. Taking into account the high percentage of chronic diseases in this group of patients, telemedicine self-service and therapeutic training programs are being implemented in a number of European countries, which help to improve the awareness of patients about the existing disease, to develop the necessary skills and abilities to manage their disease for a long time and actively and to provide dynamic timely control for the prevention of complications [5].

Information support of primary and secondary prevention of diseases and their early diagnosis is becoming increasingly important [6]. A high percentage of the prevalence of cardiovascular disease among young and middle-aged people, including in latent form, and a high risk of cardiovascular complications in them-requires pre-symptomatic diagnosis in this age group in the light of the positions of modern medicine, defined as predictive, personalized and preventive medicine [5]. This fact requires special approaches to the timely diagnosis and correction of the identified risk factors, as well as the initial forms of diseases in patients of these groups. The use of telemedicine, and in particular telemedicine preventive surveillance, has a significant role to play. In the implementation of preventive measures in young people who do not have complaints and therefore do not focus on the state of health, it is important to inform about the significant role of risk factors, understanding the causes of the disease, the initial manifestations of the disease. This again shifts the emphasis towards literacy and therapeutic education for young and middle-aged health and self-control.

All of the above allows us to draw the following conclusions: Turning to the history of the introduction of information technology in the field of health, we see that the Informatization of this area began with the 50 years of the last century abroad. The use of information technology has proved to be very convenient for the health sector, as it requires reliable and timely information. In the post-Soviet space, the beginning of the introduction of information technologies in medicine is celebrated in the 90s of the last century. One example of the significant progress that information technology has made in medicine is the development of electronic medical records. Advances in medicine in recent decades are largely correlated with advances in information technology. Modern information technology allows for faster, more reliable and comprehensive data collection.

Health information technology is an area of it that includes the design, development, creation, use and maintenance of information systems for the health care industry. Currently, different approaches to the classification of information systems used in medicine are used, due to the speed of development and functions performed. A number of authors, considered by us, take as a basis of classifications various signs of medical systems: levels of use, functional purpose, specificity of fields of application, etc.

Automated information systems used by outpatient clinics can improve health care, improve the efficiency of care, reduce errors and improve patient satisfaction, as well as optimize the work of health workers.

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Kurbanov R. D.,
Mullabaeva G. U.,
Irisov J. B.,
Republic Specialized Centre of Cardiology,
Tashkent, Uzbekistan
E-mail: Guzal-m@inbox.ru

THE INFLUENCE OF MYOCARDIAL REVASCULARIZATION ON THE VENTRICULAR ARRHYTHMIA IN PATIENTS WITH ISCHEMIC HEART DISEASE

Abstract:

Aim: The study the relations between of character ventricular arrhythmia (VA) with the degree of coronary lesions and the myocardial revascularization impact on the dynamics of VA. Material and methods: Out study included 47 patients (mean age 57.4 ± 8.5years) with CAD and ventricular potentially malignant arrhythmia II–IV class (Lown-Wolf), which according to the results of coronary angiography had recomended revascularization. All patients had a echography, Holter ECG, tredmil-test before revascularization and after 3 month. 30(63.8%) pts. were revascularized by coronary angioplasty, 14(29.8%) pts. by CABG surgery, 3 pts. (6.4%) were angiographically intact spacecraft. Results: in the analysis of the data showed that ventricular arrhythmias high grade significantly more frequently recorded in multivessel coronary lesions. Analysis was revealed a direct correlation between the degree of the weak force left main coronary artery stenosis and LAD frequency and VA IVa and IVb class ($r = 0.397$ and $r = 0.495$, respectively). After 3 months of therapy in the whole group there was a significant decrease in the number of patients with high grade VA ($p < 0.05$), and in group of patients after CABG decreased 4 times quantity of patients with VT ($p = 0.005$).

Conclusion: In patients with CAD incidence of high grade VA is in direct proportion to the degree of coronary artery lesion. Against the background of effective full myocardial revascularization was observed a decrease in detection rate of ventricular potentially malignant arrhythmia, and in some cases complete suppression.

Keywords: coronary heart disease, ventricular arrhythmias, myocardial revascularization.

More than 75% of patients cause ventricular arrhythmia (RA) is ischemic heart disease (IHD) [1]. According to some data [2; 3; 4], single ventricular extrasystoles (VES) are registered in patients with IHD in 90–99% of cases, primarily monomorphic, in 30% there are VES of high grades.

The problem of managing patients with VA, especially high grades, i.e. in patients with IHD, despite the advances in the development of new antiarrhythmic drugs (AAD), in surgical treatment of IHD, improvement of technical support of operations, surgery of arrhythmias and implantable devices, remains relevant [5; 6]. That is why our research was aimed at studying the most poorly studied aspects of VA in patients with chronic IHD, namely, studying its relationship to the severity of the underlying disease. At present, the role of myocardial revascularization in the modification of the electrophysiologic substrate of arrhythmia of various genesis in patients with chronic forms of IHD has not been fully determined.

Purpose of the study. To study the frequency and character of VA in patients with IHD and the impact on it of revascularization of the myocardium.

Material and methods. The study included 47 patients with IHD and VA of high grades (grade 2 and higher by Lown-Wolf), aged 35 to 70 years (mean age 57.4 ± 8.5 years), of which 72.3% men and 27.7% women.

Criteria for excluding patients from the study: Stable angina IV functional class (FC); unstable angina, acute stage of myocardial infarction (MI) before operative intervention; left ventricle aneurysm (LV); congestive heart failure CHF IV FC (NYHA); LV ejection fraction (EF) < 35%; diabetes mellitus type 1 and 2; persistent and permanent form of atrial fibrillation; syndrome of weakness of the sinus node or dysfunction of the sinus node in the anamnesis; hemodynamically significant congenital and acquired heart defects.

All patients underwent a clinical examination, a 12-lead rest ECG, echocardiogram, coronaroangiography, 24-hour Holter monitoring (HM), cardiac angiography, treadmill test.

In accordance with the protocol of the study, planned visits were made before the revascularization of the myocardium, and then in 3 months.

In the analysis of the daily record, the total duration of daily myocardial ischemia, the maximum depth of the ST

segment decrease, the daily number of episodes of pain and painless ischemia, heart rate at the onset of ischemic episodes were calculated. In the analysis of VA, the morphology of the arrhythmia, the connection with the exercise and ischemic episodes were studied [8; 9].

The treadmill test was conducted using the Bruce protocol. The duration of each stage was 3 minutes. The ECG was recorded in 12 leads. During the entire sample, constant monitoring was monitored for the value of the maximum (among all 12 responses) displacement of the ST segment and the detectability and dynamics of VA [9].

When carrying out the loading test, the quantitative and morphological characteristics of the VA were compared at rest, against the background of the exercise and in the recovery period. The increase in VA with the appearance of new gradations during the sample, in the absence of preload, was the criterion for stopping the test even in the absence of ischemic changes in the ST segment.

All patients included in the study underwent coronary angiography (CAG) under the standard Judkins technique with transradial access [12]. Criterion for a hemodynamically significant lesion was a narrowing of the coronary vessel more than 75% in diameter, with lesion of the left coronary artery (LCA) – more than 50% in diameter. Stenosis of 20% in diameter and less than CA was regarded as "no signs of atherosclerotic lesion of the CA". The division of the CA into segments was carried out in accordance with the ACC/AHA Coronary Angiography Manual [13].

The statistical analysis of the data was carried out using the "Statistica 6.0" software packages. To compare the qualitative features, the percentage ratio, the exact Fisher test, was used. Differences were considered statistically significant at $p < 0.05$.

The results and discussion.

All patients registered a sinus rhythm with an average frequency of cardiac contraction (HR) in the daytime hours-72 ± ± 5.6, night hours-62 ± 6.2. According to the classification of B. Lown and M. Wolf (1971), 27.6% had frequent VES (more than 30 per hour), polytope-23,4%, pair-27,6%, group and unstable VT- in 21.4% of patients.

With regard to the quantitative characteristics of arrhythmias, single VES were 2775.3 ± 485.7, paired VES-19.2 ± 5.9 and episodes VT-1.5 ± 0.2.

During the stress test, VA appeared and progressed in 32(68.1%) patients, the remaining 12(31.9%) increased in comparison with the baseline level. At the same time, 28(59.5%) patients had a clear association of JA with the onset of depression of the ST segment and anginal syndrome. According to the CAG data, atherosclerotic lesion of the CA was detected in 93.6% of patients, later, revascularization of the miocardium was performed and only 6.4% of the CA were angi. According to the CAG data, atherosclerotic lesion of the CA was detected in 93.6% of patients, later, revascularization of the miocardium was performed and only 6.4% of the CA were angiographically intact. The single-vessel lesion occurred in 25.5%, the two-vessel lesion was defined in 23.4% and the multivessel lesion occurred in 44.7% of the patients, including lesion of the left main trunk. Attention is drawn to the fact that, with the latter variant of the CA lesion, VA of high grades. With the help of the correlation analysis, a direct relationship between the degree of stenosis of the left coronary arteries and the number of paired and group VES ($r = 0.397$ and $r = 0.495$, respectively) was found, but in relation to other types of VA, the relationship with the coronary lesion was not found. The weak correlation was observed between the number of affected CA, the degree of affection of the lesions arteries and the degree of ischemic changes recorded during the stress test (ST depression, mm) – ($r = 0.401$ and $r = 0.376$, respectively). Taking into account the data of the anamnesis, the results of the objective methods of examination, the features and the atherosclerotic lesion of the CA 44 (78.7%), the patients were promptly operated. At the same time, from the group of operated patients, 30 patients underwent percutaneous intervention, and 14 – CABG. In the analysis of antiarrhythmic (AA) effectiveness of myocardial revascularization in a three-month period, regardless of the genesis of VA and the type of surgical intervention, it was 84.2%. In the distribution of all patients from the viewpoint of the type of operation, it turned out that AA efficiency of myocardial revascularization in patients who underwent CABG was 89.1%, and percutaneous intervention –78.9%. Myocardial revascularization was effective (in the treatment of both myocardial ischemia and VA) in 80.8% of patients (with a CABG in 83.3%, percutaneous intervention in 80%). The remaining 19.2% of patients showed only antiischemic efficacy of the operation. In 40.8% of patients who did not achieve the effect on VA, myocardial revascularization was incomplete. When analyzing the results of 24-hour ECG after 3 months, a decrease in the number of patients with high-grade VA was revealed, and to a greater extent it was expressed among patients who underwent percutaneous revascularization. So, after percutaneous revascularization paired VES were found all in 8% (initially in 20% ($p = 0.415$)), and paroxysms of VT-in 16% of patients (initially in 48%, $p = 0.017$). In addition, 15% of patients with VA were completely absent. In the group of patients after CABG there was a 4-fold decrease in the number of patients with VT ($p = 0.005$).

The conclusion. In patients with IHD, the frequency of occurrence of high-grade VA of high grades is in direct proportion to the degree of CA lesion. Against the background of effective full-scale myocardial revascularization, there was

a decrease in the detectability of life-threatening VA, and in some cases, its complete suppression.The antiarrhythmic efficacy of myocardial revascularization in patients with IHD with high-grade VA is lower than anti-ischemic efficacy and reaches the effect after three months of observation. In this case, it does not depend on the type of surgical intervention, the degree of completeness of myocardial revascularization of the VA types.

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Mun Andrey Vitalevich,
assistant of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute

Adilgereeva Madina Iskanderovna,
assistant of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute

Yusupova Shaxnoza Akramovna,
Tashkent Medical Academy

Islomova Feruza Komilovna,
Tashkent Medical Academy
E-mail: andrey_mun@yahoo.com

DIAGNOSTIC AND TREATMENT MANAGEMENT FOR SKIN HYPERPIGMENTATION. CONTEMPORARY OPPORTUNITIES

Abstract: The article presents results of the clinical study, which describes data on the clinic, classification, course of hyperpigmentation in patients with III–IV skin phototype. Modern methods of treatment of melanoses – laser treatment on the device Spectra XT and phased comparative diagnostics on the JANUS platform II have been evaluated.

Keywords: hyperpigmentation, Otta nevi, melanin, JANUS II, Spectra XT, melasma, ephelids, lentigo, laser, melanosome.

The problem of pigment spots remains high for many years. In the practice of a dermatologist, at least 10 patients per month referring concerning hyperpigmentation of the skin [1; 2].

Despite that, such aesthetic problem does not affect the health, does not affect the performance and does not even attract the attention of others, for a person it is the cause of serious psychological discomfort [3; 4; 5].

Pigmentation is a complex biochemical process that occurs in the skin and depends on many factors. Synthesis of melanin pigment occurs from the amino acid tyrosine under the influence of the enzyme tyrosinase in the epidermal cells of melanocytes, which are located on the layer of basal keratinocytes [6]. Melanin synthesized from melanosomes along the processes of melanocytes is transmitted to keratinocytes, where it accumulates and distributed a certain colour of the skin. There are several types of melanin: eumelanin – brown and black, feomelanin – red and colorless – leukomelanin. The predominance of one of them in the skin and hair determines the color of human hair and skin [10; 19].

Endogenous and exogenous causes of hyperpigmentation are distinguished. Endogenous include genetic predisposition, hormonal disorders, somatic and skin diseases. Exogenous ones include: ultraviolet (UV) radiation, violation of the integrity of the skin (mechanical, chemical, thermal injury), cosmetic procedures. Almost all types of chemical peels and dermabrasion, as well as cosmetic procedures accompanied by skin trauma (subcutaneous injections, implants, depilation, facial cleansing, plastic surgery) can cause hyperpigmentation [7; 8; 9].

There is most used classification of dyschromias in the scientific literature [11; 12; 13].

The following classification is considered to be the most complete and convenient. [9]:

Hypermelanosis:

1. Primary hypermelanosis

1.1. Congenital Hypermelanosis: pigmented nevi, youth lentigo, incontinentia pigmenti.

1.2. Hereditary hypermelanosis: freckles, melanism, hereditary lentiginosis, lentiginosis periorificial.

1.3. Acquired hypermelanosis:

1.3.1. Limited hypermelanosis: chloasma, linear forehead pigmentation, melasma, pigmented perioral dermatitis, Brock's carotenedermitis, Otto nevus, Becker nevus.

1.3.2. Diffuse hyperpigmentation: Addison's disease, cachectic melanoderma.

1.3.3. Toxic hyperpigmentation: Rielh's melanosis, reticular pigmental poikiloderma of the face and neck, toxic melasma Hoffman-Haberman, drug melasma.

1.3.4. Artificial hypermelanosis: actinic melanoderma, Bushke- Eyhorn's marble skin pigmentation, parasitic melasma.

2. Secondary hypermelanosis

2.1. Post-infectious melasma: syphilitic melasma, tuberculous melasma.

2.2. Post-inflammatory melasma: lichen planus; limited neurodermatitis, nodular pruritus; scleroderma; hives; eczema; pyoderma; bullous dermatosis.

The most common types of hyperpigmentation are:

Freckles, or ephelydes (translated from Greek – "solar blotches"), appear in spring in individuals with I–II phototypes. The reason of occurrence is the presence of a specific gene in melanocytes, in which an increased production of melanin occurs under the influence of UV radiation. Histologically, a normal amount of melanocytes is detected, in some of them, enlarged melanosomes that actively produce melanin are found. The brightest freckles appear at the age of 20–25 years. Up to 35 years, their number may increase, they fade with the age [20; 21].

Melasma, or ***chloasma*** – acquired uneven pigmentation, mainly on the face and neck. A significant role is played by hormonal imbalance. Melasma appears during pregnancy, during taking oral contraceptives, ovarian tumors, in perimenopause. The use of photosensitizing agents in the composition of external cosmetics or ingestion of certain photosensitizers is important in the development of dermatosis. Females suffer from melasma more frequently. The rash is characterized by uneven pigmentation of a brownish yellow colour in the central part of the forehead, above the upper lip, chin, cheeks and cheekbones. Depending on the location of the lesions, three clinical forms of melasma are distinguished: centrofacial (localization on the skin of the central part of the forehead, above the upper lip, back of the nose, chin), molar (localization in the cheeks, projections of the molars and the nose) and mandibular (pigmentation is localized in the area of the angles of lower jaw) [25; 26; 27]. In the diagnosis of melasma, an inspection using a Wood filter is extremely important. Based on the examination, one of the histological types of melasma can be diagnosed.

Epidermal melasma type. This type is characterized with foci becoming brighter and more contrast when viewed with Wood's fluorescent lamp. This phenomenon is associated with the predominant localization of melanin in the epidermis. This type of hyperpigmentation is most favorable in prognosis and the treatment.

Dermal type melasma. While viewing with a Wood's fluorescent lamp, the lesions do not contrast with the surrounding unaffected skin. This type indicates a deep migration of melanophages into the dermis, which indicates an unfavorable prognosis during treatment.

Mixed type of melasma. In this type, some areas become brighter and more contrast, while others – vice versa. Indicates the localization of the pigment in the epidermis and in the dermis [28; 29].

Lentigo manifested in the form of oval, flat or convex spots on the skin of the face and other open areas of the body. Their color varies from light beige to dark brown. Lentigo can occur at any age, including in children (youthful lentigo) against the background of acute or chronic insolation. Senile lentigo appears, as a rule, after 40 years against the background of a violation of the lipid barrier and an increase in the permeability of the corneal layer of the epidermis. Less commonly, lentigo is triggered by PUVA therapy (PUVA-induced lentigo). The histological picture of lentigo is characterized by an increase in the number of melanocytes at the border of the epidermis and dermis without signs of atypism and pigment incontinence [14; 15].

Nevus Becker – nonmelanadangerous pigment formation. Debut of the disease occurs in adolescence. The center of light brown color with localization on the skin of the shoulder, chest, back has, as a rule, a linear or segmental arrangement. Subsequently, dark hair appears on the background of spots. It occurs in 0.5% of men and is associated with stigma of embryogenesis (breast hypoplasia, spina bifida and others). Histologically, an increase in the number of melanin in melanocytes, giant melanosomes, less often – an increase in the number of melanocytes. Traditional methods of treatment give a negative result. Recommend camouflage.

Nevus Ota is a pigment spot or a cluster of blue spots that occurs mainly on those areas of the face that innervate the 1st and 2nd branches of the trigeminal nerve. Other names: ocular skin melanosis or orbital-maxillary nevus. This formation appears due to the accumulation of melanocytes (skin cells that contain melanin pigment) in the lower layers of the skin. Spots or foci of spots with ocular skin melanosis have a confluent character and are located along the branches of the trigeminal nerve: on the cheekbones, temples, in the lower eyelid, on the cheek, on the skin above the upper jaw. Less commonly, pigmentation zones are found on the mucous membranes of the nose, mouth, sclera, conjunctiva, or iris. As a rule, the tumor appears only on one side of the face. The color of the hyperpigmented areas is blue, variations from gray to purple are possible. Color of the spots an explicit; their size can be different – from small to large. Sometimes in the area of increased pigmentation also appear small nodules [16; 17].

The management of patients with impaired pigmentation goes in several directions (depending on the pathology, etiopathogenesis, and the wishes of the patient).

1) Clarification or elimination of foci of dyschromium, which are produced by surgical, physical and injection methods.

2) Masking with the use of external means, smoothing skin color, or the procedure of permanent makeup.

3) Prevention of hypermelanoses is primarily carried out by UV filters (SPF not less than 30), photo desensitization (for example, Vitamin B, provitamin A, sorbents, anti-malarial drugs) the elimination of provoking factors.

Modern aesthetic medicine and dermatology allow to get rid of almost any kind of hyperpigmentation by various methods.

Currently the greatest effect has a laser. The method is based on the photothermolysis phenomenon: the ability of pigment cells to absorb the energy of a laser beam, which subsequently leads to their destruction, which provides a good whitening effect. Lasers differ in wavelength, the longer the wave, the deeper the laser effect and the higher the efficiency of the procedure.

There is another way to affect the site of hypepigmentation – this is photorejuvenation or selective photothermolysis. It stimulates skin rejuvenation processes to a greater extent. At the same time it leads to the destruction of melanin-containing structures.

The advantages of lasers to remove pigmentation:

– no restrictions on skin phototype;

– the possibility of treatment of deep-seated pigment neoplasms;

– control pulse parameters taking into account the characteristics of the patient's skin pigmentation;

– elimination of the risk of postprocedural hyperpigmentation;

– impossibility of mechanical or thermal damage to the skin;

– no risk of scarring of the skin;

– Anesthesia is not required before the procedure.

The most modern laser system for removing pigmented tumors uses Q- Switched as a radiation source. Nd: YAG, capable of emitting two different wavelengths: 532 nm (green light) and 1064 nm(infrared light). Short pulse Neodymium laser generates an extremely powerful impulse in a compressed period of time (up to 6 nanoseconds), which allows you to focus the thermal effect exclusively on the target – the pigment melanin, maximally protecting the surrounding tissues from damage. Working with the QS system, the doctor can individually adjust the wavelength and pulse duration depending on the depth of the pigment.

Superficial accumulations of melanin with a light brown or yellowish color – freckles, lentigo, epidermal nevi,– well give in to removal by means of a wave of 532 nanometers. The green light of a laser is absorbed in a special way by melanin, causing destruction of the pigment in the surface layers of the skin. An intensive peeling of the pigment spot begins on the treated area, after which young cells form in its place, synthesizing and accumulating a normal amount of melanin.

Pigment spots of deep occurrence (dermal moles, nevus Otta, hyperpigmentation after injury) is removed using radiation with a wavelength of 1064 nm. The pulse of infrared light penetrates the basal layer of the epidermis and dermis, selectively destroying the cells, producing an excessive amount of pigment.

The use of laser technology allows to remove most types of pigmentation, including freckles, melasma, age-related lentiginous spots, nevus Otta and Becker's. As the skin absorbs the fine laser radiation, it is heated at the site of hyperpigmented spot location, resulting in the breakdown of clusters of melanosomes.

The laser treatment of hyperpigmentation performed on the Spectra XT – Lutronic, which is a platform and includes several procedures.

Spectra Toning is an innovative protocol for the treatment of hypermelanosis (melasma, lentiginosis and post-inflammatory hyperpigmentation (PIH). In the past, attempts to treat such a skincondition with lasers and other light-based sources that affect melanin often led to irritation, post-inflammatory pigmentation and other complications, and sometimes increased the manifestations of melasma in patients of Asian origin.

Spectra Toning uses a Q-switching mode with a ultrashort pulse and a flat beam profile. This provides effective treatment of dermal and epidermal hyperpigmentation in patients of all skin types. Spectra Toning is the new gold standard in the treatment of melasma.

"Spectra" – laser with Nd: YAG-crystal as an active medium with a flat profile and the beam mode with Spectral kvazilong pulses in 300 microseconds. It is the spectral mode, together with high peak power and a flat beam profile that has proven effective in treating melasma.

Current studies indicate that period of thermal relaxation (TRT) is approximately 0.2 microseconds. Therefore, the Spectra ultra-short laser pulse with a high peak power makes it possible to better affect the dermal and epidermal melanosomes [2; 27; 29].

We present the results of our own clinical observations of the treatment of hyperpigmentation on the Spectra machine. XT – Lutronic.

The study group included 16 patients with hyperpigmented spots. 4 of them had epidermal type of melasma. 3 had dermal, and 3 – mixed type. In 4 patients, procedures were made due to efelids, 2 patients about post-inflammatory hyperpigmentation. The total number of procedures varied from 2 to 10 depending on the depth of the pigment. The interval between treatments was 14 days. The effectiveness of the procedures was assessed on the JANUS diagnostic platform II before the start of the therapy and after the end of the procedures in three projections and in three emission (normal, polarized and ultraviolet light).

Based on test results with epidermal pigmentation intensity type melasma decreased by 80%, while dermal and mixed type at 33 and 42%, respectively, at Efelids efficiency was 97%, while the degree of regression postinflammatory hyperpigmentation was 78% after 8 procedures. Thus, the diagnosis of hyperpigmentation on the platform JANUS II allows to adjust the intensity of the laser exposure apparatus Spectra Xt to improve the efficiency of lightening pigment, which depends on the depth of its occurrence, the number of procedures and the intensity of the pigment.

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Hodjaeva Sabri Maxmudovna,
PhD., assistant of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute

Bababekova Nigora Bahtiyarovna,
PhD., assistant of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute

Mun Andrey Vitalevich,
assistant of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute
E-mail: andrey_mun@yahoo.com

THE PROBLEM OF EPIDERMOLYSIS BULLOSA IN CHILDREN DERMATOLOGY

Abstract: The article describes a clinical case of rare dermatosis – congenital dystrophic epidermolysis bullosa in a child 8 years of age. The clinical features, course and therapy have been described. The data indicate that, despite intensive treatment, the prognosis for this form of epidermolysis bullosa remains poor, and optimization of therapies requires further studies.

Keywords: epidermolysis bullosa, children, prognosis.

Congenital epidermolysis bullosa refers to rare hereditary diseases groups, enabling them to about 30 forms, from mild to extremely severe – incapacitating or even fatal, characterized by impaired intercellular contact in the epidermis or dermis, with the formation of blisters that appear on the skin spontaneously or after friction, pressure or injury [1; 2; 6].

Based on the revised clinical classification in 2008 including the nature of inheritance, the biochemical and histological changes there are four main groups of epidermolysis bullosa: epidermolysis bullosa simple, border (junctional) epidermolysis bullosa, dystrophic epidermolysis bullosa and Kindler syndrome [3; 6; 7].

In the simple form of epidermolysis bullosa, the cause of the occurrence of intraepidermal blisters is the mutation of the genes encoding the synthesis of keratin 5, 14 types and plectin. It leads to destabilization of the network of tonofilaments and cytolysis of keratinocytes of the basal layer, as a result of which the basal layer flakes off, with the intact basal membrane located at the base of the blister [4; 5]. Inherited are most often of autosomal dominant type [4].

Simple epidermolysis bullous has an autosomal dominant mode of inheritance, manifested from birth or in the first days of life. The cause is a mutation of genes encoding keratin 5 and 14 types, which leads to disruption of the structure of the filaments and the destruction of keratinocytes on the basal layer of the epidermis, resulting in its detachment. The disease is characterized by the appearance of blisters in the field of mechanical trauma (elbows joints, knees joints, hands, feet, back). Blisters have various sizes, containing transparent, rarely hemorrhagic fluid. Erosion resulting from the rupture of blisters, quickly epithelialized, leaving no scars. Mucous membranes are affected very rarely. The nail plate is usually not involved in the pathological process. The most common forms of simple epidermolysis bullosa are the localized form of Weber – Cockayne, generalized, Koebner type and Dowling-Meara type [12].

In the junctional form of epidermolysis bullosa blisters are formed as a result of splitting at the level of the lamina lucida of the basement membrane at the border of the epidermis and dermis. Genetic defect – mutations of genes, LAMA 3, LAMB3, LAMC2 break encoding a protein of the basement membrane in bullous pemphigoid E (hemidesmosomes) and laminin 332 (in anchor filaments). The plate of the basal membrane is located at the base of the blister. The type of inheritance is autosomal recessive. It is distinguished 2 types of junctional epidermolysis bullosa – lethal form – type Herlitz and non-Herlitz type, with favorable course of the disease [5; 6; 10].

Typical symptoms of this form include forming a plurality of blisters, skin erosions and atrophic scars, onychodystrophy, leading to total loss of the nail plate, the heavy loss of soft tissue in the oral cavity, enamel hypoplasia and heavy caries. Pathognomonic symptom is formation granulation tissue, which is symmetrically formed around the mouth, in the region of the middle part of the face and around the nose, in the upper back, armpits and nail ridges. Possible systemic complications are severe polyetiological anemia, growth retardation,

erosion and strictures of the gastrointestinal tract, damage to the mucous membranes of the upper respiratory tract and urinary tract, damage to the kidneys, outer membranes of the eye. Often, the mucous membrane of the larynx and bronchi is affected, which is manifested by a weak or hoarse cry, and further obstruction develops, which can be fatal. In the lethal form of the Herlitz, the infant mortality rate in the first year of life is 40%. Non-lethal juvenile bullosa epidermolysis occurs with moderate and severe manifestations, and with age, the skin condition improves. The main symptom of the disease is non-healing erosion around orifice [1; 5].

In dystrophic epidermolysis bullosa, blisters form deep under the basement membrane, therefore, after healing, scars remain. The development of this form is due to gene mutation COL 7 A [3, P. 21.1] encoding type VII collagen – component anchor fastening fibrils. Because of this violation, the attached fibrils are rudimentary or absent [2; 5; 9].

Both autosomal recessive and autosomal dominant variants of inheritance of dystrophic epidermolysis bullosa have been described [4].

Dominant hyperplastic dystrophic congenital epidermolysis bullosa subtype Cockayne – Touraine appears from birth, at an early age the process is generalized, then the blisters are localized on the extensor surface and the back of the hands. After blistering, hypertrophic and keloid scars are formed, appear pseudomilia. The prognosis for life is favorable [7; 11].

Dominant dystrophic albopapuloid epidermolysis bullosa (subtype Passini) begins after birth or the first days of life. In the first months, the skin lesion is generalized, and later, blisters usually occur on the same often injured areas: hands, feet, knees, elbows, neck. Healing occurs with the formation of an atrophic scar. The nail plates are affected in all patients, and only in rare cases are the nails missing, more often they are dystrophic. The growth and development of children are not impaired. With age, blisters appear less and less, and in adults only dystrophic changes in the nails and barely noticeable scars on the elbows, knees and ankles may resemble the presence of the disease [3; 5].

Recessive dystrophic epidermolysis bullosa is severe, often leading to death at an early age. The disease always occurs from birth or the first hours of life. Already at birth, the skin of the limbs is often eroded [8].

In the first days of life, rash spreads. Healing occurs with the formation of atrophic scars, contractures and syndactyly gradually develop on the hands and feet. The nail plates are absent from birth or are gradually lost as a result of the formation of subungual blisters. Multiple blisters also appear on the mucous membrane of the mouth, esophagus, and rectum. The process of scarring in the mouth leads to a restriction of the mobility of the tongue, atrophy of its papillae, overgrowth of the vestibular folds and microstomy, in the esophagus – to its narrowing, disruption of food permeability, in the rectum – to chronic constipation, sharp pain during defecation. The teeth are affected in all patients, caries, defects of tooth enamel prevail [6; 12].

Kindler syndrome is a rare autosomal recessive disorder that is associated with increased photosensitivity, poikiloderma, and blistering when injured. The development of the disease is associated with a mutation in the FERMT 1 gene, leading to a defect in the synthesis of the Kindlin-1 protein, which links the cytoskeleton with the extracellular matrix. The clinical picture is characterized by the appearance of blisters on the skin of the extremities; increased photosensitization develop with age, progressive poikiloderma and atrophy of the skin are appear.

Etiotropic treatment for epidermolysis bullosa does not currently exist. In this regard, the treatment of patients is symptomatic. The choice of symptomatic methods depends on the severity and extent of the lesion. The formation of blisters can be minimized by limiting the traumatic effects and the use of soft, well-chosen shoes and clothing.In the presence of a secondary infection, systemic antibiotic therapy is necessary. External therapy includes topical antibiotics and epithelial agents, use protective films, atraumatic dressings. In case of dystrophic forms of congenital epidermolysis bullosa, collagenase inhibitors (difenin, retinoids, vitamin E) are prescribed. Treatment of syndactyly and joint contracture requires surgery [4; 13;14].

Description of the clinical case. Patient H., 8 years old, was admitted to the Tashkent Pediatric Medical Institute clinic where the diagnosis of "Epidermolysis bullosa, recessive dystrophic polydysplastic type" was made.

A child from the first pregnancy, maternal age at birth was 23, the father's 32, the marriage is not related. Pregnancy proceeded on the background of toxicosis: vomiting and nausea accompanied during all period of pregnancy. TORCH – HSV positive. She got registered at 12 weeks, on the 19–20th weeks suffered influenza. During the screening, turbid amniotic fluid was detected, inpatient treatment was given. The second half of the pregnancy was uneventful. Childbirth at 37 weeks by caesarean section (mother has myopia). Amniotic fluid contained blood. Body weight at birth was 3 kg 68 g, height 48 cm. Apgar scale assessment 6/7 points which is evaluated as moderately serious condition.

Since birth, the condition is severe due to skin lesions. During the first 2 weeks of life the process has spread almost the entire surface of the skin: the skin on the torso, upper and lower limbs were multiple blisters with serous-hemorrhagic content, prone to peripheral growth and mergers no tendency to epithelial isolation. In place of opened blisters, extensive erosion was formed, with a juicy bright red bottom. On the hands and feet observed a deformation and detachment of the

nail plate. The administration of prednisone (25 mg/day i.v.), provided marked stabilization of the skin process.

Local status: a pathological process of the skin but has general, symmetrical character with localization on the skin of the lateral surface of the body on the right, shoulders, scalp, lower and upper extremities. The lesions represented as bullous elements with a diameter of up to 2 cm of irregular shape, with a flaccid surface and serous-hemorrhagic fluid, as well as erosions of brightpink color of the same size.

Nikolsky's sign was weakly positive. Nails on the feet and hands are absent. In the area of the hands and feet the false syndactyly, mutilation of the terminal phalanges of the toes has observed. On the mucous membrane of the oral cavity in the area of the hard palate and gums – the bleeding erosion were investigated.

Hemogram: red blood cells – 4.1×10^{12}/l, hemoglobin – 140g/l, leukocytes – 11.8×10^{9}/l, stab neutrophils – 2%, segmentedneutrophils–25%lymphocytes–66%,monocytes–4%, platelets – 221×10^{9}/l.

Urinalysis – without features. Blood culture is sterile; urine culture – sterile; seeding of cystic fluid is sterile.

Chest X- ray: moderate thymomegaly, pneumatosis of the intestine.

Geneticist consultation: autosomal recessive type of inheritance.

Treatment. Infusion of erythrocyte mass diffusion system, blood plasma, glucose, albumin, Ringer's solution, calcium gluconatis, potassium chloride, cytoflavin, vitamins A, B, E and C. Antibacterial therapy included: cefotaxim, amikacin, metronidazole, fluconazole. Local treatment consisted of applying aniline dye solutions with lidocaine and reparation gels.

The child is transferred to the orphanage with recommendations.

Conclusion: The above clinical observation is interesting in connection with a rare occurrence of this dermatosis, diagnostic difficulties and the lack of effective treatment. Unfortunately, epidermolysis bullosa is an incurable disease, but this does not mean that such patients cannot be helped. The main aim of the treatment is the proper skin care, which minimizes complications and adapts such people in society. It should be noted that clinical supervision of patients with this disease should be carried out throughout life.

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Mustakimova Ph.A.,
assistant, the Department of Pharmacology and Normal physiology
Tashkent Pediatric Medical Institute, Tashkent
E-mail: cool.lolo@mail.ru

SECRETION THE REGULATION HORMONE OF PHYSIOLOGICAL ASPECTS

Abstract: In the human body, hormones, which are regulated by the neuroendocrine pathway, play an important role, and therefore in our work we examined their regulation on the basis of a literary analysis.

Keywords: aspects, physiology, regulation, hormones.

The first level of regulation is realized by the so-called pituitary region of the hypothalamus, which controls the initial (basal) secretion of the anterior lobe of the pituitary gland and neurohypophysis secretion. The second, higher level is provided by other hypothalamic and extrahypothalamic areas of the brain (hippocampus, anterior thalamus, middle brain, etc.) that participate in stimulation or inhibition of pituitary function. Hypogothalamic structures of the brain carry out an important neuroendocrine control of the pituitary gland, and are responsible for the daily rhythm of hormone secretion. The middle brain, hippocampus and anterior medial hypothalamic nucleus participate in the regulation of the secretion of ACTH, gonadotropins, prolactin, growth hormones. In addition, ascending afferent and direct connections of both the reticular formation and the midbrain are projected into the hypothalamus, where dopaminergic and other cells secreting various monoamines are localized.

It is believed that neurotransmitters (monoamines) regulate the pituitary gland by several mechanisms:

a) participation in the synaptic transmission of information coming from the limbic system of the brain to a neuron that produces hypophysitropic hormones (peptides);

b) the effect on the membrane of the hypothalamic neuron and the process of releasing the hypophysitropic hormone;

c) a change in the functional activity of the axon of the hypothalamic neuron in the region of the capillaries of the portal (portal) pituitary system with the modification of the transport of the pituitary hormone to the blood;

d) influence on the cells of the anterior lobe of the pituitary gland with increasing or suppressing their secretory activity or modifying their response to the action of hypophysitropic hormones.

The hypothalamus has a rich network of blood vessels that form a portal system in the mid-elevation region. The most highly vascularized supraoptic and paraventricular nuclei.

Histologically, the region of the middle elevation represents the contact zone containing the endings of numerous neurons localized in these hypothalamic nuclei, through which the secretion products of these neurons (hypophysotropic hormones) reach the capillaries of the portal (portal) pituitary system. Venous capillaries of the portal system have special openings (shunts), which make it possible to transfer compounds with sufficient molecular mass from the blood to the perivascular space of the medial elevation.

The hypothalamus, therefore, is the region that transforms information coming through the nerve pathways from the overlying parts of the nervous system, by changing the level of neurotransmitters (neurotransmitters), which include various monoamines: epinephrine, norepinephrine, dopamine, serotonin, acetylcholine, gamma-aminobutyric acid. Stressful situation and other factors lead to a change in the content, rate of synthesis and release of monoamines in the hypothalamus, which in turn, change the rate of secretion of hypothalamic and pituitary hormones, which leads to a corresponding change in the functional activity of the anterior lobe of the pituitary gland.

Thus, the hypothalamus is the place where the nerve and endocrine cells interact with each other, carrying out a fast and highly efficient transmission of information necessary for a quick response from the body, systems and the body as a whole in order to ensure the vital activity of the body. The transfer of information from the cell to the cell is carried out by chemical messengers (hormones and monoamines) and electrical activity. Intercellular interactions, as studies of recent years have shown, can be carried out by the following mechanisms: synaptic messenger transfer; hormonal mechanism through circulating hormones; paracrine mechanism, i.e. without the hormone entering the blood, but only into the intercellular fluid; autocrine mechanism, i.e. the release of the hormone from the cell into the intercellular fluid and the interaction of this hormone with the membrane receptors located on the same cell. It has been shown that norepinephrine, somatostatin, dopamine, gonadoliberin, oxytocin, vasopressin can act as hormones and be secreted by endocrine cells or neurons, as well as detected in synapses of nerve cells and serve as neurotransmitters. Another group of hormones – glucagon, enkephalins, cholecystokinin, proiopiomelanocortin derivatives, are secreted by endocrine cells, performing hormonal function, and, being localized in the nerve endings,

have a neurotransmitter effect. Moreover, these two properties are revealed in other hormones of the adenohypophysis. Tyroliberin and VIP are secreted by neurons, but they perform a hormonal function, and in the nerve endings they have an obvious neurotransmitter effect.

The effect of the central nervous system on the hypothalamus is not only performed by the above-mentioned nervous mechanisms, but also by the transport of the cerebrospinal fluid of various hormones, neurotransmitters and other substances (endorphins, enkephalins, substance P) that are produced in various areas of the central nervous system and the epiphysis. In the epiphysis, melatonin and a number of other indoles and polypeptides, modulating the function of the adrenal, thyroid and sex glands, are formed. Hormones of the epiphysis are released into the cerebrospinal fluid or the general blood stream and act in various ways. So, melatonin concentrates in the hypothalamus and in the middle brain and affects the secretion of hypophysitropic hormones, changing the content of monoamines and neurotransmitters. Other epiphysis polypeptides act directly on the formation of hypophysotropic peptides.

By feedback is meant a system in which the end product of the activity of this system (for example, a hormone, neurotransmitter and other substances) modifies or modifies the function of the components constituting the system aimed at changing the amount of the end product (hormone) or the activity of the system. Vital activity of the whole organism is a consequence of the functioning of numerous self-regulating systems (excretory, cardiovascular, digestive, respiratory and others), which are in turn under the control of the neuroendocrine-immune system. All of the above represents, therefore, a complex of various self-regulating systems that are to a certain extent dependent and "subordinate". The end result or activity of the system can be modified in two ways, namely by stimulation to increase the amount of the product (hormone) or increase the activity of the effect, or by inhibiting (inhibiting) the system to reduce the end product or activity. The first way of modifying is called positive, and the second-negative feedback. An example of a positive feedback is an increase in the level of the hormone in the blood, stimulating the release of another hormone (an increase in the level of estradiol in the blood causes the release of LH in the pituitary gland), and negative feedback, when an elevated level of one hormone inhibits the secretion and release of the other (increasing the concentration of thyroid hormones in the blood reduces the secretion of TSH in the pituitary gland).

Hypothalamic-pituitary regulation is carried out by mechanisms functioning on the principle of feedback, in which distinct levels of interaction are clearly distinguished.

By "long" feedback, we mean the interaction of the peripheral endocrine gland with the pituitary and hypothalamic centers (it is possible that both the hypohyposalamic and other areas of the central nervous system) by affecting the indicated centers of the changing concentration of hormones in the circulating blood.

A "short" feedback loop is understood as such an interaction, when an increase in the pituitary tropic hormone (e.g, ACTH) modulates and modifies the secretion and release of the pituitary hormone (in this case, corticoliberin).

Thus, the study of circadian secretion of hormones is of great clinical importance, because with certain diseases (acromegaly, Icenko-Cushing's disease), the violation of the daily rhythm of hormone secretion is an important differential diagnostic feature that is used in the differentiation of syndromically similar pathologies.

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Mukhitdinov Ulugbek,
Tashkent Pediatric Medical Institute, Uzbekistan
E-mail: ulugbek30@mail.ru

ANALYSIS OF UNSATISFACTORY OUTCOMES AFTER TYMPANOPLASTY

Abstract: This article analyzes the unsatisfactory outcome after tympanoplasty for 12 months after the surgery of 204 patients (total 246 ears), aged from 10 to 50. Patients were divided into 3 groups, three different autografts in terms of their elasticity, thickness and springiness were used. The analysis of the research showed that 25 (10,2%) patients had an unfavorable outcome after the surgery period. Re-perforation was detected in patients of the group-I 3 months after surgery, whereas in patients group-III after 1 month. After studying this research, it was found that in order to obtain a stable effect in hearing improvement surgeries, it is necessary to take into account the age factor, the size of the perforation, the permeability of the Eustachian tube, the duration of the chronic process, the time elapsed from the last exacerbation, its correct treatment, micro-operation methods, the surgeon's experience and postoperative care, as well as preventative measures to combat acute diseases of the upper respiratory tract and violations of the function of the nasal cavity and nasopharynx play an important role in the postoperative period.

Keywords:

Relevance. Currently, chronic inflammatory diseases of the middle-ear are the leading causes of hearing loss in children [5; 10]. The problem of hearing restoration in children is of great social importance, since auditory dysfunction in early childhood leads to a delay in the formation of speech and psycho emotional development [13]. Surgical rehabilitation of hearing in children is most often performed with chronic otitis media (COM) and persistent perforations [3].

With the development of medical technology and surgeon's practical skill, the number of unsatisfactory results after hearing improvement surgeries is gradually decreasing**.** These long-term outcomes show that tympanoplasty is still inadequate in a number of patients, especially when extensive destructive processes require complex restoration interventions.

Over the past decades, significant advances have been made in the surgical treatment of patients with COM, however, despite this; the percentage of re-operations on the ear remains high enough and, according to different authors, is between 15% and 60% of all surgical interventions in otosurgery[1; 2; 4; 5; 6; 8; 9; 11; 12].

Evaluation of the outcomes of tympanoplasty is important not only in specific cases, but also for all the progress of hearing improvement surgeries. According to remote outcomes of surgical interventions, it is possible to judge the correctness of indications for this type of surgery, the rational scheme of postoperative treatment and the tactics of outpatient observation

The aim of the research. Conduct analysis of unsatisfactory outcome after tympanoplasty.

Material and methods. There have been analyzed the unsatisfactory outcomes after tympanoplasty for 12 months after the surgery of 204 patients (total 246 ears), aged from 10 to 50. Timpanoplasty in the examined patients was performed in the absence of acute purulent process in the middle ear for the last 6–12 months. The study included only patients who underwent tympanoplasty of type I–III (according to Wullstein H, 1972) endaural approach, where auto materials were used as a plastic material (tragus perichondrium-cartilage, tragus perichondrium and temporal fascia muscles of the patient). The patients were divided into three equal groups. The efficacy of tympanoplasty in three groups was studied in the postoperative period for 12 months of observations by the morphological and functional results of the surgery. Evaluation of the outcomes of surgical treatment was carried out, both in the early postoperative period, and in the remote terms for the following indicators:

Dynamics of the otoscopic picture – by outcomes of a otomicroscopy examination (anatomical result);

Auditory function was assessed by outcomes of an audiological examination (functional outcomes);

Middle ear cavity morphology – by outcomes of CT or MSCT studies of temporal bones.

On the basis of studying the history of the disease, the nature of perforations, operative findings, in 25(10.2%) patients, in our opinion, the likely causes of the unsatisfactory anatomical and morphological outcomes were determined. When collecting anamnesis, the duration of COM in 107(52.5%) patients was more than 10 years, in 73(35.8%) patients from 5 to 10 years, the frequency of exacerbations of the chronic process in 142(69%) patients from 1 to 4 times in year.

In the study of all patients' eustachian tube prior to surgery, there was a violation of ventilation and drainage functions of II–III degree. Of the total group, patients with total perforation of the tympanic membrane prevailed – 147(59.8%).

Subtotal perforation was detected in 77(31.3%) patients and small perforation in 22(8.9%) patients.

In general, patients with unsatisfactory outcomes were identified with total and subtotal defects of the tympanic membrane, with otomicroscopy before the surgery was determined in more than 90% of patients. The examined patients under the indications were tomographic examination. Tomography examination was performed according to the indications of the patients. Based on the conclusion of the MSCT of the temporal bones, the tactics of surgical treatment were conducted.

Results of the research. The examined patients were made up of three groups. In group-I, surgical treatment was performed in 69(33.8%) patients (87 ears) with dry mesotympanitis, where tragus perichondrium-cartilage was used. However, patients have experienced repeated otorrhoea with secondary perforation, which required repeated surgical intervention. In the postoperative period within 3 months, 1(1.15%)(0.00–3.39) patient had peripheral tympanic membrane perforation, after 6 months in 1(1.15%)(0.00–3.39) patient, due to dysfunction of the eustachian tube and after 12 months in 3(3.45%)(0.00–7.28) patients, due to exacerbation of chronic diseases of the paranasal sinuses.

In Group-II, surgical treatment was performed in 67(32.8%) patients (78 ears) with dry mesotympanitis, where the tragus perichondrium was used. In patients of Group-II 3 months after the surgery, the autograft edge detachment occurred in 1 patient (1.28%)(0.00–3.78), which was the development of adhesion processes in the tympanum, after 6 months relapse of the disease followed by detachment in 3(3.85%)(0.00–8.11) patients,, 1 of these patients underwent re-surgery. In a follow-up in 12 months, in 4(5.13%)(0.23––10.02) patients after acute upper respiratory tract infection, a relapse of the underlying disease was detected.

There are 68 (33.4%) patients (81 ears) in group III, whom we used the fascia of the temporal muscle, after 1 month of observation, 4(4.94%)(0.22–9.66) patients had a relapse of the disease followed by the autograft detachment; there was an observation of another 4(4.94%)(0.22–9.66) patients in 3 months and another 3(3.70%)(0.00–7.82) in 6 months. All (11) patients underwent reoperation with perforation closure. In a follow-up in 12 months, 1(1.23%)(0.00–3.64) of the patient had a relapse of the disease followed by perforation which was due to acute upper respiratory tract infection.

Summarizing this observation from 246 surgeries, unsatisfactory outcomes were detected in only 25 (10.2%) patients. In the first group only 5(5.75%)(0.86–10.64) out of 87 operated patients, in 4 of them (4.60%)(0.20–9.00), the hearing remained at the level of the preoperative period. In the second group 8(10.26%)(3.52–16.99) out of 78, in 7 of them (8.97%)(2.63–15.32), the hearing remained at the level of the preoperative period, in connection with the ossification of the auditory ossicles and the development of adhesive processes in the tympanum with an autograft detachment. In the third group in 12(14.81%)(7.08–22.55) patients out of 81.11 of them (13.58%)(6.12–21.04) were re-operated, improving of the auditory function failed in 5(6.2%) patients.

In patients with unsatisfactory outcomes, the average air conduction threshold in the speech frequency (500–4000 Hz) was on average 47.6 ± 10.3 Db, bone density – 11.8 ± 6.4 Db, and the level of bone-air fracture – 35.8 ± 9.7 Db.

Thus, studying the results of research, it can be said that two-layered autografts (cartilage with perichondrium) was the most durable and more "elastic" material replacing the tympanic membrane

The conclusion. Studying this research, we can assume that the main causes of reperforations were; extensive defect of the tympanic membrane, dysfunction of the eustachian tube, the process of mucous membranes, duration of chronic process, the time since the last exacerbation, its correct treatment, the age factor, the method of microoperations, experience of surgeon and postoperative care, a narrow auditory canal leading to technical difficulties during the surgery, as well as preventive measures to combat acute upper respiratory tract infection, disorders of the function of the nasal cavity and nasopharynx play an important role in the postoperative period.

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Rikhsiyev U. Sh.,
senior lecturer of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute
Nabieva D. D.,
assistant of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute
Valiyev A. A.,
assistant of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute
Akhrorov X. X.,
assistant of the Dermatovenereology,
children dermatovenereology and AIDS department
Tashkent Pediatric Medical Institute
E-mail:

AGED CHARACTERISTICS OF CLINICAL MANIFESTATION OF VIRAL EXANTHEMA IN CHILDREN

Abstract: The article below describes particularities of the manifestation of viral exanthema caused by enterovirus Coxsackie in children of different age groups. The investigation noted that the eruptions in the form of miliary and lenticular lesions and papules quickly turn into vesicles that have a characteristic elongated shape with transparent serous contents. Skin rashes accompany on a background of dyspepsia (67.8%) and asthenovegetative (81.4%) disorders, varying depending on the age of the children.

Key words: Coxsackie virus, viral exanthema, children.

One of the main tasks of a General Practitioner is to timely diagnosis and treatment of an infectious diseases [1; 4]. Viral exanthema (VE) is included into the one of the manifestations of an infectious diseases in children. The condition is an acute benign disease of childhood classically characterized by a history of a prodromal febrile illness lasting approximately 3 days, followed by defervescence and the appearance of a faint pink maculopapular or maculovesicular rash. Exanthema frequency in differ type of infectious disease is unequal [2; 6; 11]. In United States the frequency varies approximately from 12% to 30% of children have clinical manifestations consistent with roseola. Eighty-six percent of children have acquired HHV-6 antibodies by age 1 year. By the age 4 years, almost all children are seropositive. Roseola appears to peak in spring and fall. Throughout the world a relationship seems to exist among prevalence, geographic location, and ethnicity. The prevalence of roseola is 92% in Ecuador, 60% in Japan, 20% in Morocci, and 49–76% in Malaysia. The disease is more prevalent among younger infants in Japan [3; 5; 7; 12]. Another frequent cause of the disease is enteroviral infections. Human enteroviruses are distributed worldwide, with two major patterns of infections within a given geographical area: endemic and epidemic. Coxsackieviruses, echoviruses and enterovirus type 71 are significant causes of cutaneous diseases. Enteroviruses spread from person to person by either oral-oral or fecal-oral routes. These infectious agents are highly contagious and are a commoncause of widespread outbreaks. Seasonal distribution is a characteristic feature. In temperate climates, enteroviral infections are more common in the summer and autumn, whereas in tropical regions, they are tend to occur year round. Among infectious diseases in children may be distinguished number of diseases, where rashes are a main component of an clinical symptoms. Among them special attention is being paid to the roseola infantum, or exanthema subitum. Roseola is usually a self-limited illness with no sequelae. The major morbidity associated with roseola is seizures (6–15%) during the febrile phase of the illness. Encephalitis, fulminant hepatitis, hemophagocytic syndrome, and disseminated infection with HHV-6 are extremely rare manifestations in healthy hosts. Immunosuppression secondary to transplantation may result in viral replication and reactivation. Doctors of different specialties are frequently

faced with this type of exanthema. According to a number of authors, in recent years is revealed increasing frequency of a viral exanthema among children worldwide, which's main etiology, is enterovirus infection [5; 8; 10; 11]. According to statistics disease caused in 75–90% cases by human herpes virus type 6 (HHV-6), epidemiologically and biologically close to cytomegalovirus, in 10–25% cases by human herpes virus type 7 in rare occasions is induced by ECHO – 16 [9]. Most cases are sporadic. Viral exanthema (VE), called by enterovirus Coxsackie is more prevalent in territories with sharply continental climate. The symptoms of viral exantema include the following: roseola is typically characterized by a history of high fever followed by rapid defervescence and a characteristic rash; fever (often up to 40°C and of 3–7 days duration); maculopapular or erythematous rash (fades within a few hours to 2 days) typically beginning on the trunk and may spread to involve the neck and extremities, nonpruritic and blanches on pressurerarely coalesce; seizures (6–15%); diarrhea (68%). Prodromal symptoms occurs in 14% on children: listlessness, irritability, cough (50%).

Laboratory studies. As the duration of the disease is short and benign, laboratory studies generally are not obtained if the child presents with a classic history. Diagnosis of primary HHV-6 can be confirmed by primary viral isolation from the peripheral blood. Specific immunoglobulin M (IgM) serology or a rise in HHV-6 specific immunoglobulin G and HHV-6 DNA polymerase chain reaction can document infection. In a complete blood count (CBC) leucopenia may be noted. The white blood cell (WBC) count usually returns to reference ranges within a week. Although not suggested since physical examination is usually diagnostic, a Tzanck smear performed on vesicular fluid would be negative for the presence of multinucleated giant cells, which may help to differentiate the disease from herpes simplex virus (HSV).

Material and methods: we enrolled 106 children at the age of 6 months to 11 years, with VE. In 59 of them was diagnosed enterovirus Coxsackie. Exanthema subitum was diagnosed after clinical and laboratory examination, which included immunological and serological findings. With a view to exploring the clinical manifestation of different ages with VE all patients with enterovirus Coxsackie were divided into next groups: 1-group, patient of early childhood (till 2 y.o.) – n = = 12(20.3%), 2-group, preschool aged patients (from 2 to 7 years)– n = 29(49.2%), 3-group, school aged patients (from 7 to 11 years) – n = 18 (30.5%).

Disease starts with symptoms similar to other children infection diseases (fever, weakness, abdominal pain, arthralgia etc.) and allergic (macular/maculopapular rashes) respiratory and digestive system diseases, leading to diagnosis difficulty. Anamnesis studying revealed that in 25(42.4%) cases patients infected air-drop way, in 34 (57.6%) by water and contact-household way, especially by swimming in open reservoir, dirty hands, toys, general used subjects and others. In this case incubation period depended of an age of patients. In particular, from 1-group, incubation period was 12–36 hours after suspected contamination. According to their parent's mains source was from surrounding of a patient (air-drop way – n = = 10–83.3%), and in 2(16.7%) patients anamnestically notes contact-household path infection. With age was noted prevalence of a water and contact-household paths upon air-drop way infection. Was defined, if in children of preschool age composed 34.5% (n = 10), then in patients of school age this showing composed – 27.7% (n = 5), yielding leadership to contact-household way (n = 13–72.3%).

Differential diagnosis base by clinical manifestations contains definition of the rash morphology, with specific localization. In patients revealed one-time or with small interval rash appearance on palm and foot, rarely on buttock and extensor areas of ulnar and knee joints, which appears as roseolas and lenticular papules, fastly transforming into vesicles with specific extended form and clear serous containing, prone to muddying and suppuration. Rash count in patients are varied from numbers to hundreds. In severe cases rash spread to whole body.

In history taking and physical examination, most attention was paid to related symptoms, also to a age of patients. In particular, due to enterovirus Coxsackie can influence pathologically to different organs and systems of a child organism, observed development of several clinical forms of disease. In observation is revealed functional changes of nervous, cardiovascular, digestive, respiratory and urinary system. In relation to this, in 11(91.7%) from 1-group was noted asthenovegetative syndrome, as sleep violation in case of hyperaction and hypertermic syndrome. Clinical sign data in 2-group was – 82.8%(n = 24), among 3 group – 72.2%(n = 13). In 10(83.3%) patients of 1-group was note dyspepsia violence as periodical vomiting (66.7%), loss of appetite (83.3%), abdominal pain (58.3%), diarrhea (66.7%). Dyspepsia was revealed in 19(65.5%) preschool aged patients, and school aged patients – 11(61.1%), which mean that the dyspepsia decreases with patient's age increasing

Same-time noted changes from oral mucosa (hyperemia of palate arch, smooth palate, granulation of a pharynx back wall) – y 8(13.6%) 59 of patients, eye system (catharal conjunctivitis) – in 3(5.1%) patients. How showed observations, in most cases enterovirus Coxsackie proceeds hyposymptomatically, clinically manifested as episodes, too similar to flu, mainly proceeded with intestinal syndrome (n = 31–52.5%).

On the basis of taken data we can make conclusion, that the viral exanthema, called by enterovirus Coxsackie has special actuality on nowadays in regions with sharp

continental climate among children as frequent incidence and prevalence, diagnosis difficulty by various specialties and general practitioners.at the same time main clinical manifestation of a viral exanthema, caused by enterovirus Coxsackie are skin rashes, proceeding on a background of dyspepsia (67.8%), asthenovegetative (81.4%) violation.

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Iskandarov A. I.,
Forensic Expertise Bureau of the Republic of Uzbekistan
Nadjmitdinov S. B.,
Tashkent Pediatric Medical Institute
E-mail: mbshakur@mail.ru

CLINICAL AND MORPHOLOGICAL CRITERIA OF FORENSIC ASSESSMENT OF ACUTE POISONING WITH ETHYL ALCOHOL AND ITS SURROGATES

Abstract: In the course of the study, it was found that in cases of acute poisoning with ethyl alcohol and its surrogates, characteristic clinical signs of poisoning are observed, which depend primarily on the concentration (dose) of the poison taken and its physicochemical composition. Pathomorphological signs of poisoning with alcohol substitutes cause dystrophic changes in all internal organs, with predominant liver and kidney damage.

Keywords: poisoning with alcohol and its surrogates, clinic, forensic medical examination.

According to statistical information of the World Health Organization, every year about 4% of population of the world dies because of alcoholism and diseases of inner organs caused by alcohol, now it is approximately 2.5 million people [8]. However, these are average data in the whole world, while in some countries the rate of alcohol mortality can reach very high level. The highest numbers were registered in Russia and some countries of Eastern Europe [9].

The basic reasons of lethal poisonings with alcohol are: consuming much alcohol, especially on empty stomach, chronic alcoholism, specific style of life, alcoholism in the family [1].

Ethanol easily penetrates through tissue membranes, it is fast absorbed in stomach (20%) and small intestine (80%). In 1.5 hour average its concentration in blood reaches maximal level. Ethanol acts like a selective depressant of CNS in small doses, and as a common depressant in big ones; it has psychotropic (narcotic) effect accompanied by suppression of excitement processes in CNS by means of neurons' metabolism application, dysfunction of mediator systems, inhibition of oxygen utilization [2; 5].

Significant role in the pathogenesis of poisoning is played by metabolic toxicosis and oscidosis (accumulation of ethanol biotransformation products). The basic endogenic product is poisonous acetaldehyde, formed in all variants of oxidative degradation of ethyl alcohol. If dehydrogenesis aldehyde is not duly transformed to acetate, expressed intoxication develops. Acetaldehyde causes disorder of adrenaline and other catecholamines circulation in brain and in periphery, it damages cardiac-vascular system, liver, and kidneys [3; 4; 6].

Clinical and morphological symptoms of poisoning with alcohol surrogates differ from those of ethyl alcohol [7]. Lethal outcome in case of poisoning with alcohol surrogates often occurs in case of presence of low concentrations of ethyl alcohol in blood or even its absence.

At the moment clinical manifestations of acute poisonings with ethyl alcohol are well studied, though morphologic patterns of alcohol and its surrogate poisonings are still disputable.

The objective of the study is design of clinical and morphological criteria of the assessment of acute poisonings with ethyl alcohol and its surrogates in hot climate.

Material for the study were conclusions of forensic expertises on acute poisonings with ethyl alcohol and its surrogates for 2010–2017 and results of proper examinations of corpses (82) of people who died due to alcohol poisoning and 76 cases of poisoning with alcohol and its surrogates in alive people receiving therapy in the republican Scientific Center of Emergency Medical Aid (RSCEMA). We performed analysis of all clinical and laboratory research methods used in cases of poisoning with ethanol and its surrogates in RSCEMA, while in lethal cases we used common morphologic methods.

Results of the study. Poisoning with alcohol develops step-by-step. Clinical symptoms depend on the dose. It is considered to be acute poisoning when state of a person, who consumed a great dose of alcohol, suddenly worsens with appearance of disorders of consciousness, loss of ability to walk, ability to perceive environment, development of stupor and coma. On the basis of clinical symptoms observed in patients treated at RSCEMA and data of forensic conclusions we worked out a table of acute poisonings with ethanol in our conditions.

Symptoms of alcohol coma are not specific and do not represent a variant of narcotic coma. It is characterized by obstruction aspiration disorders (tongue falling back, hypersalivation, bronchorrhea, aspiration with vomiting masses), stridor, tachypnoe, acrocyanosis, swelling of cervical veins, possible big bubbly crackling in lungs, widening of pupils (Tab. 1).

In autopsies of corpses of people who died due to alcohol poisoning we did not find any specific alterations. Often we observed cyanosis and edema of face, swelling of eye-lids. Blood was liquid. In 93% there were tard spots on heart and

lung surface. We noted plethora and edema of meanings, brain, and lungs. In 87% cases bladder was overfilled by urine. During autopsy cavities always had alcohol smell. Surrogates of ethyl alcohol are its substitutes. They include all other alcohols (methyl, butyl, prothyl, etc), and ethylene glycol, dichlorethal of substances which are often used for intoxication.

Table 1.– Dynamics of clinical symptoms of acute poisonings with ethanol dependent on the concentration (dose) of ethyl alcohol in blood

Alcohol concentration in blood (‰, mass/volume)	Alcohol effect stage	Clinical manifestations
0.01–0.05	Sobriety	There is no clear effect. For a usual observer the behavior is normal. Slight alterations are identified using special tests.
0.03–0.12	Euphoria	Slight euphoria, communicative, talkative. Increased self-confidentiality, weakening of inhibition reactions. Deterioration of attention, reasonableness, self-control, loss of capability for fine operations, manipulations.
0.09–0.25	Excitement	Emotional instability, weakening of inhibition reactions. Loss of reasonableness. Deterioration of memory and comprehension. Weakening of sensory response; increase of response time. Slight disorder of coordination of motions.
0.18–0.30	Confused consciousness	Disorientation, confused consciousness, dizziness. Increased emotionality (fear, anger, sadness, etc). Sensory dysfunction (diplopia, and so on), color perception, motion forms, size. Rise of pain sensation threshold. Disorder of balance, quite expressed disorder of coordination, swinging walk, inarticulate speech.
0.27–0.40	Stupor	Apathy, general slackness, close to paralysis. Noticeable weakening of responses to any stimuli. Loss of coordination, inability to walk or stay. Vomiting, incontinence of urine and feces. Turbid consciousness, deep sleeping and stupor.
0.35–0.45	Coma	Complete loss of consciousness; anesthesia. Suppression or absence of reflexes. Drop of body temperature. Urine and feces incontinence. Disorder of blood circulation and breathing.
0.50 and more	Death	Possible lethal outcome. Death due to paralysis of respiratory muscles.

Poisoning with methyl alcohol in our study was observed in 6 cases. Methyl alcohol is easily absorbed in blood. First it has light narcotic effect, then there is suppression of oxidation processes in tissues and development of oxygen starvation. Lethal dose in the cases occurred due to doses from 40 to 100 ml of the drunken poison.

According to clinical symptoms we differentiated the following doses:

1. narcotic, displayed by poisoning symptoms;
2. toxic, damage of kidneys and heart;
3. damage of CNS displayed, first of all, by loss of vision.

In case of increased dose of methyl alcohol polyorganic alterations are formed quite quickly, leading to death at a moment. These alterations involve central nerve system, gastrointestinal tract, parenchymal organs, and organs of immunogenesis. With dose of 3ml of 50% of methanol solution disorders of blood circulation and dystrophic alterations were non-significant and differently expressed. In case of increase of the dose there was sudden increase of pathologic morphological alterations in central neural system and lungs. We noted trophic effect of methanol on the central neural system. Less expressed alterations were observed in parenchymal organs and immunogenesis organs. All that indicated selective effect of that poison.

Poisoning with ethylene glycol in our study was observed in 2 cases. In these cases ethylene glycol was used for suicide. In human organism it is destroyed to very toxic products of glycolic and oxalic acid. As a result of that CNS is damaged, there is notable excitement, convulsions, loss of consciousness, disorders of respiratory and cardiac activities. Acute renal failure develops due to the formation of non-soluble salts of oxalic acid, which cause occlusion of renal channels. Autopsy in these cases showed cyanosis of skin, wide dark-purple spots, plethora, brain edema, liver enlargement, and toxic lesion of kidneys.

In autopsies we also observed alterations corresponding to clinical forms of poisoning. In case of death due to cerebral coma in both cases we noted sudden hyperemia of brain substance and its meanings, multiple small hemorrhages in

inner organs under serous and in mucous membranes. One victim who died on the 7th day after poisoning had prevailing alterations in kidneys and liver. In liver there was plethora, edema, fatty dystrophy, and necrosis foci. Kidneys are enlarged, have multiple large focal hemorrhages and grey-yellow areas of necrosis, mostly in the cortex (toxic hemorrhagic necronephrosis). Histological study of the lumen of channels showed crystals of oxalates with characteristic structure.

The most severe damages were registered in case of poisonings with dichlorethan (6 cases). Dichlorethans are widely used as solvents for chemical cleaning of clothes, sticking of various surfaces and so on; it effects on almost all organs, and first of all, cardiovascular system, liver, and kidneys.

Clinical symptoms in all cases corresponded to acute poisoning: latent start with further development of toxic damage of brain substance (encephalopathy), headache, nausea, vomiting, dizziness, swinging walk, acute cardiovascular failure, damage of liver and kidneys. In 4 cases death occurred because of cerebral coma, and in 2 cases due to hepatic-renal failure.

Internal examination of corpse in all cases showed multiple hemorrhages in inner organs, damage of liver, kidneys, hemorrhages, and necrosis of gastric mucous membrane, specific smell of rotten dried mushrooms coming from cavities and organs.

Conclusion: Thus, in cases of acute poisoning with ethyl alcohol and its surrogates we could observe characteristic clinical symptoms of poisoning, dependent, first of all, on the concentration (dose) of taken poison and its physical-chemical composition.

Pathologic morphological symptoms of poisoning with alcohol surrogates are expressed dystrophic alterations in all inner organs with prevailing damages in liver and kidneys. We revealed the following symptoms: erosive gastritis, hyper coagulation, dystrophic alterations in liver and pancreas, and necrotic nephrosis.

Forensic histological examinations showed that macroscopic appearance of these poisonings had no specific symptoms. In relation to that, forensic diagnostics should be based on the data of clinical symptoms and forensic chemical blood and urine analysis of the victim.

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Nazarova Janna,
scientific applicant
Tashkent Postgraduate Medical Institute
E-mail: nilu74@list.ru

BIOLOGICAL MARKERS IN THE DIAGNOSIS OF CEREBRAL ISCHEMIA

Abstract: In recent years, a new line of scientific inquiry-proteomics, which is defined as the study of the "proteome", is all the proteins synthesized in a single cell or in an organism as a whole.

Definition of a set of biomarkers of acute and chronic brain ischemia can personalize organizational approaches when planning volume medical and diagnostic care for patients.

Thus, a simple and rapid analysis of blood biomarkers can reveal acute cerebral ischemia, cerebral ischemia differentiate from "mimic" a stroke or predict the short-term risk of recurrent TIA or stroke.

Keywords: Biomarkers, ischemia, stroke, diagnosis.

Relevance. Development of new methods for early diagnosis and prevention of cerebrovascular diseases, which are a major cause of morbidity, disability and mortality of adult population has a greater medical and social importance. Thus, the mortality from cerebrovascular diseases in developed countries is 11–12% of total mortality, taking place after 3 deaths from heart disease and tumors. In Russian mortality from stroke per 1000 population of 1.0–1.41 [2; 6].

Percentage of initial manifestations of cerebrovascular insufficiency and chronic cerebral circulatory disorders in the structure of cerebrovascular diseases according outpatient service is respectively 52% and 17%. This situation raises a number of topical issues in diagnosing the problem early angioneurology doinsultnyh forms of vascular pathology of the brain, including the laboratory in which the preventive and therapeutic measures can be most effective [7; 10].

In the past decade has been notable success in discovering and understanding the mechanisms of cerebral ischemia: there were also actively developed new aspects angioneurology – theory heterogeneity of ischemic stroke, risk factors and antirisk, hemodynamic cerebral reserve, ischemic penumbra [penumbra], the concept of the therapeutic window. The most promising areas of research are the primary prevention of ischemic brain damage, and determination of risk factors antiriska, identification of initial manifestations of the disease, the study subtle biochemical processes occurring in ischemic brain tissue [7; 9].

In recent years, a new line of scientific inquiry – proteomics, which is defined as the study of the "proteome", i.e. all the proteins synthesized in a single cell or in an organism as a whole [12].

Proteomics has an impressive arsenal of methodic, which will ensure progress proteomic studies of the human body conditions in combination with the detailed analysis of the metabolic processes that enhance the quality potential of the modern clinical laboratory biochemistry.

Definition of a set of biomarkers of acute and chronic brain ischemia can personalize organizational approaches when planning volume medical and diagnostic care for patients.

Inclusion in clinical studies of markers of cerebrovascular diseases accelerate the search for new therapeutic strategies and facilitates an objective assessment of the results of ongoing clinical trials [9; 10].

The most promising for routine use in a stroke unit recognized endothelial hemostatic, inflammatory serum biomarkers and protein molecules are formed due to deterioration of brain neurons and glia [1; 12].

During the last decade it was proposed several biomarkers for the prediction and diagnosis of brain damage. Of great interest to S100B in serum as a biomarker for neurological and neuro-cognitive outcome measure heart surgery was caused by reports that the S100 B was correlated with brain damage after a stroke, traumatic brain injury and cardiac arrest [3]. S100B is a calcium-regulatory protein found primarily in glial cells and Schwann cells.

Another potential biomarker for cerebrovascular effects resulting from cardiac surgery is C-reactive protein (CRP), acute-phase agent and the indicator of the underlying general inflammation. CRP is a novel plasma marker for atherothrombotic disease, and an indicator of cardiovascular disease.

Recently it has been proposed N-methyl-D-aspartate (NMDA) -retseptornye proteins and antibody as biomarkers of neurotoxicity underlying cerebral ischemia and stroke [4; 11].

By limiting the blood flow to any portion of the brain tissue survival depends on a set of principal factors: the presence of collateral circulation, duration of ischemia, and reduction in size and flow velocity. These factors in turn determine the exact anatomical location and size of the damage and, consequently, the parameters of clinical deficits [12].

There is a hierarchy of CNS cells, which exhibit selective susceptibility to ischemia. Neurons are the most vulnerable

brain cells, although glial cells (oligodendrocytes and astrocytes) and are very reactive to the damaging effects. Activation of glial cells, usually accompanies the pathogenesis of cerebral ischemia. Of considerable importance is great individual variability of the sensitivity of neuronal populations in different regions of the CNS, which depends on the characteristics of regional cerebral blood flow, cerebral metabolic needs of the cells and their neurochemical specialization [1].

Currently it found that by limiting blood flow to the brain tissue run a complex cascade of biochemical, genetic, immunological processes, which lead to damage and, ultimately, to the death of nerve cells. In the modern theory of the "excitotoxicity" a special role in launching the mechanisms of cell damage during ischemia give excitatory neurotransmitters – glutamate in the first place. Its excessive release and neuronal accumulation causes edema and cell death. It is shown that apoksiya increases glutamate release and its accumulation in increased amounts in the cerebrospinal fluid during ischemia [8; 9]. Glutamate removal from the synaptic cleft or blockade of glutamate receptors prevents neuronal damage [1].

In brain ischemia involves glutamate powerful emission in the extracellular space leading to hyperactivity of the pre- and postsynaptic glutamate receptors. Massive entrance of Ca2 + into nerve cells gives intracellular levels of second messenger, triggers a cascade of reactions that terminate rapid or delayed cell death by necrosis or apoptosis mechanism [2; 6].

According to modern views glutamate it is regarded as a mediator, provides multiple neuron response to a variety of physiological and biochemical stimuli. The variability based on stimuli of the same order of reaction is different neuron specificity glutamate receptors. It should speak of a whole system of glutamate receptors, their isotopes which as the main reaction mediate synapse membrane depolarization, i.e. formation of action potential (inotropic receptors, iGluR) or regulation of the magnitude and potential duration (mGluR). For glutamate receptors characteristic multidimensional interaction, and functionally coupled with other neurotransmitter systems of the brain.

Glutamate receptors are divided into two main groups: ionotropic and metabotropic. Neuroreceptors are divided into ionotropic NMDA (80% of the number of excitatory synapses), AMPA, kainite and L-AP4. Currently we identified three classes of NMDA-receptors. Origin (NR-1), appear to be represented by a single gene, and the other (NR-2A-NR2D and NR3A) – multiple genes encoding the synthesis of proteins, consisting of approximately 900 and 1450 amino acids. NMDA-receptor complex can be modified during ischemia. The result is disturbance of ion permeability and / or selectivity. Immediate consequences of these processes are to increase cell membrane permeability to sodium ions and its swelling. However, the most damaging factor is considered to further increase the concentration of Ca_2 [11].

It is well known that receptors (NMDA) are the major excitatory neuroreceptor that regulate neuronal electrical signals. Substantial progress in the understanding of mechanisms of stroke was made on the basis of the effects on NMDA-receptor regulation of cerebral vessels. NMDA-receptors are localized at the surface epithelium of microvessels which form the blood-brain barrier and to control the function of the microvasculature. NR2 peptide fragments are rapidly cleaved by the NMDA receptor-activated serine proteases thrombin due to a cerebral ischemic event. After leaving the bloodstream through the blood-brain barrier is disturbed within a few minutes after the start, NR_2 peptides remain detectable in the blood for at least three days after being [4; 8].

The researchers hypothesized that the NMDA receptors by different processes neurotoxicity reflect the early stages of a stroke, expression of NMDA receptors increases during ischemia and hemorrhage decreases as [4]. When ischemia excessive amounts of glutamate leads to disruption of the functioning of NMDA receptors, and their subsequent destruction, and to peptide fragments initiation of apoptosis. Impaired BBB misses destructive molecules from the brain into the bloodstream, causing the activation of the immune system that produces autoantibodies to their own brain antigens. When cerebral hemorrhage neurotoxicity caused by glutamate leads to necrosis of the nervous tissue and reduce NMDA receptor expression, so the formation of autoantibodies suppressed. This phenomenon may be useful for the development of rapid haemo-test.

All these successive processes lead to the destruction of the membrane of nerve cells. It has been found that damage to glutamatergic neurons in ischemia leads to accumulation NR_2 [11]. NR2 biomarker level in this case can serve as a criterion for ischemia of brain tissue. According Dambinovoy et al, diagnostic value NR2-antitel in ischemic stroke with a volume of 5–70 cm ischemia approaching 95.9%, and with transient ischemic attacks – 98% to [4]. Studies have shown that elevated levels of NR2 peptide [> 1.0 ng/mL] were related to the immediate risk of acute stroke, whereas levels below 1.0 ng/ml characterize non-ischemic events [e.g., healthy controls and stroke mimics]. This constant evidence of neurotoxicity underlying cerebral ischemia.

Thus, a simple and rapid analysis of blood biomarkers can reveal acute cerebral ischemia, cerebral ischemia differentiate from "mimic" a stroke or predict the short-term risk of recurrent TIA or stroke. For patients with a syndrome similar to a stroke, the use of biomarkers in conjunction with clinical evaluation and brain imaging may provide greater diagnostic sensitivity and specificity.

It is also important to determine specific biomarkers in the blood of patients in the early stages of cerebral circulation. This can help the doctor to identify patients who are at high risk of stroke in the short term.

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Nazarova Nigora Bohodirovna,
doctoral candidate Ph D., 1 year of study
of the Department of public
health and health management,
Tashkent pediatric medical Institute
E-mail: baron-codli@mail.ru

PRODUCTION CONTROL OF RADIATION SAFETY AND ENSURING QUALITY CONTROL IN X-RAY ROOMS

Abstract: Ensuring security is a complex and time-consuming task that requires compliance with all the principles of protection and safety of personnel and the public. The quality of control in x-ray rooms is affected by a number of parameters. To maintain the constant performance of x-ray machines, quality checks should be carried out regularly.

Legal requirements and international basic safety standards for radiological safety require compliance with medical irradiation standards.

One of the difficulties in the operation of the equipment in the radiation diagnosis is the lack of regulatory and methodological documentation for quality control, as well as universal methods for assessing the quality of research.

Keywords: radiation safety, quality assurance, quality control, diagnostics, production control, safety of the working environment.

Introduction. Ensuring safety is a complex and time-consuming task, which requires compliance with all the principles of protection and safety of personnel and the population [1; 2]. The quality of control in x-ray rooms is affected by a number of parameters. To maintain the constant performance of x-ray machines, quality checks should be carried out regularly. It is important to introduce the concept of "clinical audit" – a common tool for quality assessment.

World practice shows that the widespread use of x-ray computed tomography for diagnosis leads to a significant increase in the levels of irradiation of patients [3]. Legal requirements and international basic safety standards for radiological safety require compliance with medical irradiation standards. Such radiation safety audits represent only a small part of a comprehensive audit. The results of these tests should be considered and used in a comprehensive clinical audit in the context of IAEA recommendations [4].

Purpose: consideration of some aspects of radiation safety production control and quality assurance in x-ray rooms

Regular quality control ensures:

– proper functioning of medical x-ray machines;
– reduces the harmful effects on patients;
– eliminates unnecessary double exposure;
– reduces the cost of x-ray departments.

The program of production control establishes a system of radiation control and regulates the rights and obligations of persons engaged in production control of radiation safety (RPC) in the institution. The increase in the level of medical care is standardly associated with the implementation of the quality management system (international standard ISO 9001: 2008) [5] and in relation to management and medical processes in the clinic

The purpose of the production of radiation control:

– obtaining information on individual and collective doses of radiation of personnel and the population under all conditions of human activity, as well as information on all regulated values characterizing the radiation situation;
– ensuring safety and (or) harmlessness for the person and habitat of harmful influence of objects of production control by due performance of sanitary rules and hygienic standards, implementation of sanitary and anti-epidemic (preventive) actions.

For the production of radiation control is assigned responsibility for production control of radiation safety of staff [6].

One of the difficulties in the operation of the equipment in radiation diagnostics is the lack of regulatory and methodological documentation for quality control, as well as universal methods for assessing the quality of research [7].

In particular, the world health organization (who) recommends six quality measurements those are required for the health system [8]:

– efficiency;
– expediency;
– availability;
– acceptability for the patient;
– justice;
– security.

The quality management level of the x-ray unit is determined by the calculation of quality indicators grouped into

the following three main categories: human resource control, physical asset control and safety of the working environment. For this purpose, it is necessary to develop a questionnaire in subsequent studies. At the same time, take into account that the presence or absence of quality factors in the questionnaire leads to the assignment of points 1(pass) or 0(negative), respectively.

For example, the overall performance measured as a quality assurance (16 points) is the sum of the points from:

The first category (human resource management). Seven points: patient records, certificates of the staff, protecting patients, professional training, dosimetry of patients, the management of quality assurance and training without discontinuing work.

The second category (physical asset management). Four items: quality control program, equipment maintenance reports, quality control results and equipment license.

Category 3 (safety of the work environment). Five items: social security, security of personnel, monitoring personnel, warning signs about radiation and the designated officer radiation safety.

Administration rating the quality assurance of the object is calculated as the ratio of the number of points to the 16 indicators under consideration.

Conclusion. When considering some aspects of radiation safety production control and quality assurance in x-ray rooms, it was planned to introduce the concept of "overall efficiency", which is assessed as an element of quality assurance.

The program of production control should establish a regular system of radiation control and regulate the rights and obligations of persons engaged in production control of radiation safety in the institution.

It is shown how to combine the role of clinic managers in quality control of equipment performance without compromising radiological protection.

Systematic evidence-based monitoring is envisaged for the development of guidelines as part of the quality assurance programme.

To avoid difficulties in the operation of the equipment in radiation diagnosis, it is necessary to develop normative and methodological documentation for quality control, as well as universal methods for assessing the quality of research.

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Nasimova Nigina Rustamovna,
assistant of Samarkand State Medical Institute
E-mail: evovision@bk.ru

FEATURES OF MICROBIOCENOSIS OF THE VAGINA IN WOMEN OF REPRODUCTIVE AGE WITH GENITAL PROLAPSE

Abstract: The results of the preoperative examination show high contamination of the cervical canal and vagina in women with genital prolapse with opportunistic and pathogenic microflora, which creates a high risk of postoperative complications and requires appropriate preoperative preparation.

Keyword: genital prolapse, biocenosis, bacteriological studies.

For many years, the omission and loss of internal genitals in women is a fairly common gynecological disease [1; 2; 4], often in need of surgical correction. The peak incidence (56.3%) about the collapse of the genitals accounts for the age of 50 years. However, recently there is a tendency to "rejuvenation" of this pathology. Women under the age of 45 years are 30–37, 5% of patients with genital prolapse, and women under 30 years 10.1–12.3%. In recent years, there has been a predominance of severe forms of the disease and the involvement of adjacent organs in the process with a violation of their function [5].

Purpose. The study of biocenosis of the vagina in women with genital prolapse before surgery.

Material and methods. The study was based on clinical and laboratory examination of –126 patients with various forms of genital prolapse of varying degrees, who were admitted to the gynecological Department of the maternity complex № 3 in the city of Samarkand in the period from 2012 to 2016.

Microscopy the study was subjected to a discharge from the urethra, the Church-kalinago canal and the posterior fornix of the vagina before surgery, before and after the sanitation of the vagina. Mucus from the urethra and cervical canal was collected with tweezers after pre-drying of the vaginal mucosa of the cervix with a dry sterile swab. From the posterior vaginal vault detachable climbed with a spatula. The resulting material is deposited on a glass slide, stained by Gram. Baktabioskopi conducted a simple light microscope.

Results and discussion. We conducted all the bacteriological examination. The method of choice for assessing vaginal biocenosis is currently considered to be the microscopy of a Gram-stained vaginal smear. The sensitivity and specificity of the method are close to 100%. The evaluation criteria were the following indicators: the average number of leukocytes in the field of view, the type of flora, the abundance of flora (table. 1).

Table 1.– The results of bacterioscopy of vaginal smear in the examined women's

Degree purity's	Comparison group (n=46)		Main group (n=80)		χ^2	P
	abc	%	abc	%		
1 degree	9	19.6	10	12.5	1.14	> 0.05
2 degree	15	32.6	23	28.8	0.21	> 0.05
3 degree	21	45.7	45	56.3	1.32	> 0.05
4 degree	1	2.2	2	2.5	0.01	> 0.05

1 the degree of purity was observed in 9 (19.6%) women of the comparison group and 10 (12.5%) of the main group. The majority of women in both groups were identified 2 and 3 degree, indicating a large role of infections in the development of genital prolapse.

All patients underwent bacteriological examination of the contents of the cervical canal with identification of flora and determination of sensitivity to antibiotics before the operation (table. 2).

Table 2.– Results of bacteriological examination

	Comparison group (n = 46)		Main group (n = 80)		χ^2	P
	abc	%	abc	%		
1	*2*	*3*	*4*	*5*	*6*	*7*
Staphylococcus Epidermidis	7	15.2	18	22.5	0.97	> 0.05
Staphylococcus aureus	6	13.0	15	18.8	0.68	> 0.05

1	*2*	*3*	*4*	*5*	*6*	*7*
Escherichiacoli	17	37.0	28	35.0	0.05	> 0.05
Candida albicans	7	15.2	4	5.0	3.83	> 0.05
Association	4	8.7	7	8.8	0.00	> 0.05
There is no growth	5	10.9	8	10.0	0.02	> 0.05

In 7(15.2%) patients of the comparison group, Staphylococcus Epidermidis was sown, in 18(22.5%) patients of the main group, Staphylococcus aureus – in 6(13.0%) and 15(18.8%), Escherichiacoli – in 17(37.5%) and 28(35.0%), respectively, in groups. 4(8.7%) pain-tion of the comparison group and in 7(8.8 per cent) are the major groups discovered the Association of microorganisms: Escherichiacoli +Enterobacter, Staphylococcus aureus + Escherichiacoli, Staphylococcus aureus + Enterobacter. The absence of growth of microorganisms occurred in 5(10.9%) and 8(10.0%) patients, respectively, in groups.

Bacterial vaginosis was established in 6(13.0%) of the comparison group and in 10(12.5%) patients of the main group on the basis of amine test, measurement Of vaginal pH content and detection of "key cells" under vaginal co-holding microscopy. The diagnosis was established in the presence of two positive signs out of three. The average vaginal Ph was 5.65 ± 1.5.

Given that the operations performed by vaginal access are conditionally clean, patients are shown to conduct preoperative antibacterial prevention. The results of the preoperative examination show a high OSCE-mennost cervical canal and vagina in women with pelvic organ prolapse opportunistic and pathogenic microflora, which creates a high risk of postoperative complications and requires appropriate preoperative preparation. For vaginal sanitation in the detection of nonspecific vaginosis and vaginitis used 2% cream Clindacin, 5 g(single dose) once a day at night intravaginally for 6 days plus metronidazole 2.0 g once. In specific vaginitis, treatment was performed with antibiotics depending on the results of bacteriological examination. If necessary, after treatment of the complement of the hygiene of the vagina of a 0.02% solution of decamethoxin (deosan). The course of treatment is 7–14 days.

The indicators of the vaginal flora of patients before surgery were characterized by SNI zheniem content bifidoflora have 69.72% of lactobacilli at 56.88% against high co-ionizatsii representatives of facultative microflora (up to 105 CFU/swab). On the 5th and 10th day of treatment, patients had a significant increase in the incidence of obligate microorganisms in comparison with patients who did not receive the drug: bifidoflora by 1.7 times and 2.4 times, respectively; lactoflora by 1.8 and 2.2 times, as well as a significant reduction of facultative microorganisms by 1.3–2 times.

The study of microflora features as a risk factor for postoperative infectious and inflammatory complications in women with genital prolapse reveals its normal state only in 21.1% of them before treatment.

Summary. The results of the preoperative examination show high contamination of the cervical canal and vagina in women with pelvic organ prolapse with opportunistic and pathogenic microflora, which creates a high risk of postoperative complications and requires appropriate preoperative preparation.

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Nasretdinova Mahzunova Tahirovna,
Karabaev To Hurr Asankulovich,
Department of Otorhinolaryngology,
the city of Samarkand Uzbekistan
Tashkent Pediatric Medical Institute Department of children's
Otorhinolaryngology, dentistry course Tashkent Uzbekistan
Samarkand Medical Institute
E-mail: luna1088@mail.ru

THE USE OF VESTIBULAR REABILITATION IN PATIENTS WITH VIOLATIONS OF THE VESTIBULAR ANALIZER

Abstract: Vestibular rehabilitation is a simple and effective method of treatment of patients with diseases of peripheral and central parts of vestibular analyzer. The diagnosis of vestibular disorders, estimation of severance and dynamics of patient's state is conducted with use of clinical tests with high level of significance. Among such tests there are investigation of spontaneous and end-position nistagmus, Halmagy test, test "to stand up and go for time", test "on one leg equilibration" and so on. Vestibular gymnastic is composed of exercises for visual stabilization and balance training. The results of observation research the purpose of which was to estimate the optimal duration of vestibular rehabilitation in patients with unilateral nonprogressive peripheral vestibular disorder are presented. The optimal duration of treatment was established to be as little as two months.

Keywords: dizziness; vestibular disorders; vestibular rehabilitation.

Vestibular rehabilitation is a relatively simple and effective method of treatment of vestibular diseases caused by damage to the vestibular system at the peripheral or Central level. Damage to the vestibular system is common in clinical practice. Thus, according to a recent study conducted in the United States, the prevalence of obvious and hidden vestibular disorders in people over 40 years reaches 35.4% [1]. According to another study, up to 4% of American adults experience chronic balance disorder [2].

The vestibular system performs two main functions: it ensures the stability of the image on the retina, so that objects remain stationary when moving the head, and takes part in maintaining balance. Consequently, diseases of the vestibular system are manifested by dizziness (i.e., a sense of imaginary movement or rotation of objects around the patient or the patient in space) and instability. Vestibular disorders, both acute and chronic, significantly limit the daily activity of patients. The impact of chronic vestibular disorders on the quality of life is comparable to the consequences of paresis or amputation of the limb [3].

The goal of vestibular rehabilitation is to reduce visual disorders associated with vestibular dysfunction and restore balance, thereby reducing the risk of falls.

Indications for vestibular rehabilitation are non-progressive peripheral vestibular disorders, diseases with damage to the Central parts of the vestibular analyzer, the consequences of craniocerebral trauma, when disorders of the Central and peripheral vestibular system are often combined, psychogenic dizziness, instability in old age. The most effective vestibular rehabilitation is in non-progressive unilateral peripheral vestibular disorder, for example, due to vestibular neuronitis or labyrinthitis [4]. Rehabilitation in Central vestibulopathies is less effective, but is widely used in the treatment of various diseases of the Central nervous system. Vestibular rehabilitation is impractical in cases of progressive vestibular disease. Diseases manifested by recurrent dizziness, in cases where patients do not experience instability and dizziness between attacks, also usually do not require the appointment of vestibular gymnastics [5].

The study of the vestibular system includes the study of spontaneous and systemic nystagmus, as well as samples that help to establish damage to the vestibular system and determine the level of this damage. The study of nystagmus is an important indicator of the safety of the vestibular system. Nystagmus invariably occurs when the vestibular-ocular reflex is damaged. To detect nystagmus, the patient is offered to monitor the movement of the object located in front of his eyes, in the horizontal and vertical planes. The study of the eye in extreme positions it is not informative, because in this case may appear physiological installation nystagmus, occurring in healthy people.

Peripheral vestibular disorders are accompanied by horizontal and / or torsion nystagmus, which does not change direction when looking in different directions. Vertical nystagmus indicates a lesion of the vestibular nuclei or cerebellar worm. So, nystagmus when looking down ("nystagmus

beating down") occurs at the craniocervical junction anomalies (Chiari anomaly, placebase). It is also possible with stem and cerebellar stroke, lithium poisoning or antiepileptic drugs and multiple sclerosis. Nystagmus when looking up due to the defeat of the tires of the Pons caused by stroke, tumors.

The diagnostic value of the nystagmus test is significantly increased when using Fresel glasses. These simple devices are equipped with lenses with a refractive power of + 16 diopters and a built-in light source. Lenses, on the one hand, prevent the fixation of the eye, which can suppress spontaneous nystagmus caused by damage to the peripheral vestibular system, and on the other – facilitate the visualization of the eye due to the effect of a magnifying glass.

Sample Hallmagi – another way to diagnose damage to the vestibular system. Surveyed offer to fix the eyes on the bridge of the nose situated in front of him the doctor and quickly turn your head alternately in one and the other side by about 15° from the midline. Normally, due to the compensatory movement of the eyes in the opposite direction, the eyes remain fixed on the bridge of the nose and do not turn after the head. In case of damage to the vestibuloocular reflex due to the loss of the function of the vestibular system, the turn of the head towards the lesion can not be compensated by a one-time rapid transfer of the eyes in the opposite direction. As a result, the eyes return to their original position with a delay – after turning the head there is a corrective saccade that allows you to return the eye to its original position. This saccade is easily identified in the study. Positive test Hallmagi indicate damage to the vestibular system. Negative proof Hallmagi suggests that dizziness is due to damage to the cerebellum or, rarely, some departments of the big hemispheres of the brain, and not the vestibular system.

Methods of clinical study of balance and determining the risk of falls include the use of special scales that allow to quantify the severity of existing disorders in the patient. The most common and available in everyday practice for screening assessment of stability and risk of falls are the test "stand and walk for a while", the test of stability on one leg, the test of walking speed (preferred and maximum).

Test "get up and walk for a while": the Examinee is offered to get up from a standard chair (seat height 46 cm, armrest height 65 cm), go 3 m, turn around, go back and sit in the chair again. The test is performed in normal everyday shoes; the patient can use a cane or other AIDS that he usually uses when moving. Before performing the test, it is recommended to offer the patient to try to do what will need to be done on time. Normative data for the test "get up and walk for a while" are shown in the (table 1) [6; 7].

In General, a time of less than 10 seconds is considered normal. When you run the test for more than 10 seconds increases the risk of falls. If the patient spends more than 20 seconds on the test, we can talk about a significant limitation of mobility. Performing the test for more than 30 seconds indicates the existence of dependence on outside help in the performance of any daily activities.

Table 1.– Normative data for the test "get up and walk for a while" for different age groups

Age, years	Men, with	Women, with
40–49	6	7
50–59	7	9
60–69	8	10
70–79	10	11

Stability test on one leg: the Subject is asked to stand at a distance of one meter from the wall or other fixed object. It is better to perform the test without shoes. The test is performed first with open and then with closed eyes. The patient is offered to cross his arms on his chest so that the hands lie on his shoulders, and stand on one leg. It is important that the legs do not touch each other during the study. Measure the time during which the patient can keep his balance. The countdown is stopped if the leg on which the patient rests moves on the floor, if the legs touch each other, the raised leg touches the floor or the patient changes the location of the hands. The second step is asking the patient to perform this test with his eyes closed. In this case, another reason to stop the countdown is the opening of the examined eye. Normative data for the resistance test on one leg for different age groups are given in (table 2.)

Table 2.– Regulatory data for the resistance test on one leg for different age groups

Age, years	with open eyes	with closed eyes
40–49	29.7 ± 1.3	24.2 ± 8.4
50–59	29.4 ± 2.9	21.0 ± 9.5
60–69	22.5 ± 8.6	10.2 ± 8.6
70–79	14.2 ± 9.3	4.3 ± 3.0

Thus, normally a person over the age of 60 years should be able to stand on one leg with his eyes closed on average at least 5 seconds.there should be no significant difference between stability on the right and left leg.

Apparently, the stability test on one leg has insufficient reproducibility [2] and is hardly applicable for the diagnosis of postural disorders. Nevertheless, it can be used to monitor the effectiveness of rehabilitation [6].

Walking speed test (preferred and maximum): the Subject is asked to walk a distance of 6 m at first with the normal and then with the maximum possible speed. Normative data for the walking speed test are given in table three.

Table 3.– Regulatory data for the walking speed test-preferred and maximum, m/s

Age, years	Preferred speed		Maximum speed	
	men	women	men	women
20–29	1.09	1.06	1.95	1.96
30–39	1.27	1.16	1.83	1.65
40–49	1.13	1.08	1.74	1.57
50–59	0.94	1.09	1.17	1.49
60–69	0.95	0.87	1.21	1.27
70–79	0.94	0.85	1.35	1.19

Selection of vestibular gymnastics exercises: Despite the large variety of exercises for vestibular rehabilitation, gymnastics usually includes two groups of exercises: eye stabilization and balance training [7; 8]. The most common exercise to stabilize the gaze is that the patient is offered to fix the gaze on the object located at arm's length, and turn the head from side to side in horizontal and vertical planes. The exercise is performed for 30–60 2–3 times a day. The criterion for the correct speed of head movements is the ability to clearly see the object in the outstretched hand.

As training exercise is complicated: if the patient first performs this exercise sitting, then in the next stage-standing, then-standing in the position of "feet together", then – standing in a tandem position, then – standing on a soft Mat, inclined surface, etc.In addition, the eye can be fixed not only on closely spaced objects, but also on objects located, for example, at the other end of the room.

Another exercise is that in the face of the patient at arm's length have two objects. Objects are usually located 50–60 cm apart so that, looking directly at one of these objects, the patient can see:

1. another. The patient is first offered to keep his head straight and turn his eyes to one of these objects. Then followed the eyes of the patient turn

2. head. After asking the patient to transfer the eye to a second object. Then the patient turns behind the eyes and head. These movements repeat 1–2 min 2–3 times a day.

There are no strictly defined exercises for postural stability and balance training. Walking itself, especially on rough terrain, is already a balance training. As one of possible options of exercise on balance training there can be the following. The patient is offered to walk between several chairs placed in the room. You should move at maximum speed, avoiding the chairs on perhaps a more complex trajectory. Exercise should be performed 2–3 times a day for 1 min.

A total of 46 patients took part in the observational study. Of these, 18(39%) were men and 28(61%) were women. The median age was 47 years, 95% confidence interval (42.9–51.1) (19 to 70 years).

As a cause of dizziness, 44 (95.6%) of 46 examined patients were diagnosed with vestibular neuronitis; one (2.2%) – herpes zoster with lesions of the cranial ganglia (Ramsey–hunt syndrome), one (2.2%) – labyrinthitis. The observation program lasted 3 months, and all patients were examined 4 times with an interval of 1 month. Objectification of symptoms of dizziness was carried out using the scale of assessment of dizziness (SHOG) (Dizziness Handicap Inventory – DHI) and a 5-point Scale of subjective assessment of the severity of dizziness. Shogh is developed by Jacobson and co [9] in 1990 and it is widely used to objectify the severity of dizziness in various clinical studies. The scale includes 25 questions with three answers to each ("Yes", "no", "sometimes"). The answer to the question " Yes "was estimated at 4 points," sometimes " – 2 points," no " – 0 points.

Thus, the total score for the SHOG can be from 0 (no dizziness) to 100 (very pronounced dizziness). SOG has 3 podskali: function (assesses the extent to which dizziness disrupts daily activity of the patient), emotional (assesses the extent to which dizziness violates the emotional state of the patient) and physical examination (assesses the extent to which movement of the head and body affect the dizziness). In General, this scale allows you to quantify the impact of vestibular diseases on the physical and emotional state of the patient, which is especially important in the dynamic monitoring of the course of treatment.

Immediately after the diagnosis, patients were selected exercises for vestibular gymnastics.

The results of the observation program indicate that in most cases (71.7%) the best therapeutic effect in patients with acute non-progressive peripheral vestibular disease occurred after 2 months of treatment. At the same time, after 3 months of treatment, the condition of patients continued to improve somewhat, but these differences were not statistically significant.

The improvement in the patients who participated in observational study, were observed in all podskalak SOG. This indicates that vestibular rehabilitation in combination with drug treatment improves the daily activity of patients with damage to the peripheral part of the vestibular analyzer, reduces the dependence of dizziness on movements in General and the head in particular, which is very characteristic of vestibular dysfunction, and also improves the emotional state of patients.

Thus, vestibular rehabilitation is an important component of treatment of patients suffering from various vestibular diseases. Selection of vestibular gymnastics is relatively simple, and observation of changes in the state of patients and objectification of indicators reflecting the degree of severity of vestibular disorders

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Negmatshayeva Habiba Nabievna,
candidate of medical sciences, associate professor,
Head of the Department of Obstetrics and Gynecology-2
Yuldasheva Azadaxon Sabirovna,
candidate of medical sciences, associate professor,
Department of Obstetrics and Gynecology-2
Shokirova Sadokatxon Muxammatsolievna,
assistant of the Department Obstetrics and Gynecology-2
Gafurova Shaxnoza Mavlanovna,
assistant of the Department Obstetrics and Gynecology-2
Mamajonova Saida Otaxanovna,
assistant of the Department Obstetrics and Gynecology-2
Andijan State Medical Institute
Uzbekistan. City of Andijan
E-mail: isaidbek@bk.ru

ANALYSIS OF THE FEATURES OF THE COURSE OF PREGNANCY AND LABOR IN PUERPERAS WITH DEVELOPED POSTPARTUM HEMORRHAGE

Abstract: In this paper, an analysis of the features of the course of pregnancy and childbirth in puerperas with developed postpartum hemorrhage is discussed. The work was carried out at the Department of Obstetrics and Gynecology of the II Perinatal Center at the AGMI from 2017 to 2018. Under our supervision there were 64 women in gestational age of 37–40 weeks. When examining pregnant and parturient women, the obstetric and gynecological history was carefully studied, with emphasis on the morphofunctional features of the reproductive systems. To obtain the most complete information on the obstetric-gynecological history, the course of this pregnancy, childbirth, the early puerperal period, the history of labor was used additionally (U. S. No. 096/y).

Keywords: Bleeding, childbirth, pregnancy, mother.

Relevance of the topic. The most important problems in providing high-quality care to pregnant women, mothers and puerperas include obstetric hemorrhages. Around the world, obstetric bleeding remains one of the most important causes of maternal mortality. In the 21st century, more than 529.000 women die each year from complications associated with pregnancy and childbirth. At least in every fourth observation, the cause of the fatal outcome is bleeding. Postpartum hemorrhage (PPH) is an obstetric complication that transforms the normal physiological process of childbirth into a life-threatening state. In the structure of maternal mortality in Russia, massive obstetric hemorrhages continue to occupy one of the leading places, being in 20–25% of cases the only cause of deaths. Most obstetric hemorrhages occur in the postpartum period. The frequency of obstetric hemorrhages ranges from 2.7 to 8% of the total number of births.

Purpose of the study. To analyze the features of the course of pregnancy and childbirth in puerperas with developed postpartum hemorrhage.

Material and research methods: The work was carried out at the Department of Obstetrics and Gynecology of the II Perinatal Center at the State Medical Institute from 2017 to 2018. Under our supervision there were 64 women in the gestational age of 37–40 weeks.

During the examination of pregnant women and women in labor, the obstetric and gynecological anamnesis was carefully studied with an emphasis on the morphofunctional features of the reproductive system, the course and outcomes of previous pregnancies complicated by bleeding in the patient, as well as in her mother and other relatives.

To obtain the most complete information on the obstetric and gynecological history, the course of this pregnancy, childbirth, and the early puerpera period, we also used the history of childbirth (account No. 096/y).

Результаты. Gynecological diseases before this pregnancy were observed in 42(65.6%) women. The most commonly diagnosed inflammatory diseases were: chronic adnexitis was detected in 16(25%) women, chlamydia in 5(7.8%), ureaplasmosis in 5(7.8%), trichomoniasis in

11(17.1%), cervical erosion – in 15(23.4%), yeast colpitis – in 12(18.7%).

Menstrual dysfunction among 64 pregnant women was observed in 12(18.7%) cases, more often in the form of hyperpolymenorrhea, algomenorrhea.

The vast majority of women had their first pregnancy, on average, 1–2 years after the onset of sexual activity.

Among 64 patients, 23(35.9%) were primiparous women, 22(34.3%) were repetitive, 19 of them were multipath, (29.6%). The frequency of spontaneous abortion was established in the history of 18 women, which amounted to 28.1%. Of these, 11(17.2%) had spontaneous miscarriages, 7(10.9%) had premature births.

According to the anamnesis, the threat of termination of this pregnancy in the early and (or) later periods was observed in 13 (20%) women. This pregnancy was complicated by early toxicosis in 25 women, which amounted to 39.1%.

Conclusions. The results of the study showed that all 65.6% of women had gynecological diseases before the present pregnancy. At the same time, the high frequency of spontaneous miscarriages 1(17.2%) and 7(10.9%) – premature labor draws attention.

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Radjapov Adilbek Anvarbekovich,
Urgench Branch of the Tashkent Medical Academy
E-mael: mbshakur@mail.ru

DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL STATUS INDUCED BURNDICALLY DISEASES

Abstract: It was found that in rats with an induced burn disease, significant immune status disorders were detected, which were determined by quantitative T-cell and neutrophilic immunodeficiency with an increase in natural killers and activation of the apoptosis process.

Keywords: burn disease in experiment, immunological status.

According to the World Health Organization, thermal injuries rank third among other injuries, accounting for 10–11%. In terms of the duration and severity of the course, burn disease is in the lead among various variants of traumatic illness. Burn disease should be considered as an immunodeficiency disease, in which there is an early and prolonged decline in the rates of congenital and acquired immunity [2; 6]. It should be borne in mind that the immune response of heavy burns develops against the backdrop of the acute shortage of energy and plastic resources [3; 4]. The immune status of patients with severe thermal trauma is ultimately formed against the backdrop of a large number of immunosuppressive factors: extensive skin damage as an immune organ, stress during trauma, exposure to a large number of toxins of fired tissues, increased lipid peroxidation and disruption of the membrane cell systems, antibiotic therapy, hormone therapy, multiple anesthesia during dressings and operations of autodermoplasty [1; 3]. In severe thermal damage, cellular defense mechanisms are particularly inhibited. Significant inhibition of T- and B-systems of immunity leads to a sharp decrease in the body's resistance to infectious agents, which can become a prerequisite for the development of both local and general infectious complications, up to burn sepsis [5].

However, to date, there is a small number of works devoted to a comprehensive study of the immunological status of burned and the role of their disorders in the pathogenesis of burn disease and its complications.

The purpose of the study: to study changes in the indices of the immune status in the dynamics of the development of burn disease in the experiment

Materials and methods: a deep thermal skin burn (IIIB degree) was induced on 54 non-native white rats in females weighing 140–270 g. Under ether anesthesia, a burn in animals was caused by applying a metal plate heated to 1000 C to the skin of the back. Exposure time of the plate, the area of 18–20% of the total surface of the skin of the rat, through a wet napkin was 16 seconds. With these exposure modes, damage to all layers of the skin was achieved.

The immune status of animals was assessed by unified tests (F.Y. Garib et al., 1995; M.V. Zalialieva, 2004). Population composition of lymphocytes in peripheral blood was determined with the help of monoclonal antibodies (LLC Sorbent Service, Moscow) to differentiating surface markers CD3, CD4, CD8, CD16, CD20 and CD95 by indirect blood rosetting. Phagocytic activity of neutrophils (FAN) was determined with latex particles with a diameter of 2.3 microns.

Immune status studies in rats of this group were performed on days 3, 6, 10, 17 and 24.

Results of the study: on the first day of reproduction of the experimental burn in animals, the stress chain of induced pathological disorders (lethargy, adenomia, apnea, tachycardia, polydipsia and uremia) were observed, which allows them to be regarded as a burn disease. On day 3 after excision of the necrotic scab formed, the surface of the burn wound was covered with a gauze cloth moistened with saline solution with gentamycin.

Burn injury in animals caused a change in the immunological reactivity of the organism. On day 3 after reproduction of burn disease in animals, significant disturbances in the state of the immune system were determined, in comparison with the control, which were expressed in a change in the level of quantitative and functional indices of the immune status. Thus, in comparison with the control, a decrease (at $P < 0.05$) of the relative content of T-lymphocytes (CD3 +) by 32%, i.e., to 35.0 ± 0.81%.

The change in the number of subpopulations of T-lymphocytes (CD4 + and CE8 + cells), despite a significant decrease of 31% and 27% (to 23.1 ± 0s4% o and 11.8 ± 0.47%, respectively), a violation of their ratio is not it was determined that the immunoregulatory index (IRI) did not differ from the control.

The change in the humoral link of the immune status of animals with Of burn disease was reflected in an unreliable increase in the percentage of B-lymphocytes (CO20 + cells), but was within the control values.

In animals with Of burn disease from 3 days, a significant development of the apoptosis process was revealed, which was

expressed in an increase in CD95 + cells by 26% (up to 20 ± ± 1.46% versus 15.8 + 0.3% in the control). An increase in the percentage of cells with receptors for apoptosis coincided with a decrease in T-lymphocytes and their subpopulations.

In the early period of burn disease, a significant violation of the state of natural defense factors was determined. With a decrease in phagocytic activity of neytrophenols by 33% (d (up to 31.0 ± 1.36%, with P < 0.05) there was a decrease in the number of phagocytic particles (up to 2.5). This process was accompanied by a slight increase in the percentage of natural killers (CD16 + cells) to 11.0 ± 0.57% versus 10.3 + + 0.33% in the control.

The change in the level of quantitative immunological indices in animals with Of burn disease was determined in their ratio in the dynamics of observation.

By quantitative indices in the state of the T-cell level of immunity on the 6^{th} and 10^{th} days, an insignificant increase in the level of T-lymphocytes and their regulatory subpopulations with a tendency to normalization on days 17 and 24, with preservation of the value, immunoregulatory index (CD4 /CD8) was determined.

In all terms of observation there was an increase in the level of natural killers by 51%, 65%, 65% above control, with normalization towards the end of the experiment (up to 10.6 ± ± 0.49). A significant decrease in the phagocytic activity of neutrophils was still observed, the level of which was 80%, 74%, 75% and 87% at 6, 10, 17 and 24 days, compared with the control. Only by 24 days the increase was 40.5 ± 0.99%, remaining below the control (at P < 0.05).

In the development of burn disease, the animals showed a marked activation of the process of apoptosis of blood leukocytes, which was reflected by an increase in the percentage of CD95 + by 26% –33%, in comparison with the control, at all times of observation.

Thus, it was found that in rats with an induced burn disease, significant violations of the immune status were detected, which were determined by quantitative T-cell and neutrophilic immunodeficiency with increasing natural killers and activation of the apoptosis process.

Conclusions:

1. Induced burn disease in rats promotes changes in immune status in flow dynamics, which are determined by quantitative T-cell deficiency (CD3 +, CD4 +, CD8 + cells).

2. There is a violation of natural protective factors (decreased FAS and increased CD16 + cells) with activation of the apoptosis process (increase of CD95 + cells) in the dynamics of the development of burn disease in the experiment.

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Rasulov Z. D.,
Kayumkhodzhaev A. A.,
State Institution of the Republican Specialized Scientific Practical Center of Surgery named after Academician V. Vakhidov
E-mail: mbshakur@mail.ru

SURGICAL TREATMENT OF RECURRENT VARICOCELE

Abstract: Determining the hemodynamic varicocele type by Doppler ultrasound and intraoperative flebotonometry in the spermatic vein system allows to choose the best way of operation and to prevent the development of recurrence. Using microsurgical techniques allows to ligate not only the collateral spermatic vein, but also periarterial trunks excluding intraoperative damage to testicular artery and lymph collectors. Worked out method comprising the use of microsurgery in combination with the formation of an "internal" jockstrap, is an effective method of treatment of varicocele and prevent its recurrence, complicated with infertility.

Keywords: varicocele, infertility, microsurgery.

Introduction Varicocele is the cause of male infertility in 40% of cases and is quite widespread in 15–19% of young men of working age. Clinically manifested varicocele is diagnosed in 35% of men with primary infertility and 70–81% of men with secondary infertility, while being detected in 15% of the male population [1; 3]. Currently, most researchers believe that "correction of varicocele is a necessary operational tool for the prevention and normalization of spermatogenesis [5].

The generally accepted way of treating varicocele is the Ivanisevich operation – the ligation of the seminal vein ("high ligation") in the retroperitoneal section, which is considered the most justified. However, a large percentage of relapses after this operation led to the search for new, modified methods.

According to the European Association of Urologists, the recurrence rate for varicocele ranges from 2% to 29.5%, depending on the method of surgical intervention [4]. The result largely depends on the correct choice of the method of operation, depending on the degree and type of varicocele. The latter speaks of the need to develop a single standard procedure for intraoperative diagnosis of the degree and type of varicocele with the definition of indications for a particular type of intervention. In this regard, the development and improvement of the indications for the choice of the method of re-operation in the recurrence of varicocele is relevant and not fully solved the problem.

Purpose of the study. To improve the results of surgical treatment of recurrent varicocele by developing methods using microsurgical techniques.

Materials and methods. The clinical material for this work was the results of the examination and surgical treatment of 60 patients with recurrent varicocele. 36 out of them, were patients of the first group with varicocele who underwent ligation of the inner and outer spermatic veins according to the method developed by us and Group II – 24 patients who underwent ligation of the spermatic vein in the traditional way. The age of patients ranged from 12 to 41 years, the average age was 20.88 ± 0.51 years.

In the main group, all operations were performed by inguinal access under local anesthesia. In the compared group – pararectal access under general intravenous anesthesia.

The distribution of patients according to the degree of varicocele in both groups was homogeneous.

Patients performed general clinical examinations (comprehensive blood and urine analysis, blood biochemistry, ECG, chest roentgenoscopy), ultrasound dopplerography of the spermatic veins and cutaneous electrothermometry of the scrotum, intraoperative phlebotonometry of the spermatic veins were performed to determine the extent and type of varicocele and evaluate the effectiveness of surgical treatment.

In sexually mature patients of the compared groups, before and in the control periods after the operation, spermatogenesis studies were performed. In the first (main) group, a study of spermograms was carried out in 18, of which 6 showed abnormalities of spermatogenesis of varying degrees involving infertility. In the second (compared) group, the spermogram was performed in 14 patients, where it was noted that the pathological change in spermograms was observed in 7 patients and was accompanied by infertility in two patients.

Microsurgical inspection of the elements of the spermatic cord allowed to determine the anatomical types of BCB. Thus, the trunk type VSV was found out in 24(38.7%) patients, the loose type – in 5(8%) and mixed type – in 33(53.3%) patients. Scatter type VSV was an indication for microsurgical vein ligation due to the inability to perform microvascular anastomosis.

In 36 cases (group I), the trunks of the inner and outer spermatic vein were ligated using microsurgical techniques according to the method developed in the clinic (patent for the invention "Method for the surgical treatment of varicocele complicated by infertility" No. IAP 04683 dated April 08, 2013).

The use of microsurgical techniques allows you to:

– to identify and protect from damage the vas deferens with its accompanying vessels, the internal testicular artery, the main lymphatic vessels of the spermatic cord;

– identify and evaluate the external seed artery and vein, save the artery during vein ligation;

– isolate and bandage the periarterial trunks of the BCB;

– to isolate and bandage all the veins of the spermatic cord, with the exception of the veins of the vas deferens and one vein, which is used to form the anastomosis (if indicated).

If we take into account that the majority of the examined patients had a loose scrotum (64.5%), which also contributed to the development of relapse, it became necessary to develop a method of forming an "internal" suspension, using the capabilities of microsurgical techniques. The combination of the developed method with the main stage of the operation contributed to the prevention of relapse.

The method consists in microsurgical ligation of the trunks of the spermatic vein, discharge of the spermatic cord below the external inguinal ring, without additional access, pulling up of the testicle to the level of the / 3 scrotum with fixation of the spermatic cord to the inguinal ligament with separate interrupted sutures.

Distinctive features of the developed method are:

1. Isolation of the spermatic cord and fixation to the inguinal ligament with 1–2 sutures to create an "internal" suspensor.

2. Ligation of the trunks of VSV and NSV using microsurgical techniques, in view of the complete "destruction" of the Reno – testicular and oro – testicular pathological circulation.

3. Restoring the integrity of the cremasteric muscle throughout the inguinal canal.

Upon completion of the main stage of the operation, the aponeurosis of the external oblique abdominal muscle was conducted with interrupted sutures and wound closure layered.

The results of microsurgical dressings for the development method in group I (n = 36) were analyzed in comparison with the control group of patients (group II – n = 24) who underwent Ivanissevich surgery for varicocele.

Results and its discussion.

An indicator of skin thermometry of the scrotum is an indirect sign of impaired blood flow. In the control periods, the temperature gradient between the left and right halves of the scrotum in I group significantly decreased from 1.22 °C to 0.26 °C in the upper third of the scrotum, at the level of the lower third of the scrotum from 0.82 °C to 0.19 °C and in group II from 1.32 °C to 0.37 °C, from 0.67 °C to 0.25 °C, respectively, which indicates the adequacy of the operation and the reduction of venous stagnation.

With ultrasound doppler, there is a decrease in the diameter of the seminal vein from 0.47 ± 0.04 cm to 0.28 ± 0.02 cm in group I and from 0.52 ± 0.05 cm to 0.30 ± 0.01 cm in group II. An assessment of the dynamics of changes in the ultrasound parameters of the blood flow of the operated patients of the two compared groups during the year showed that the difference between the obtained data is statistically significant ($p < 0.05$), which indicates the preservation of the achieved positive result of surgical intervention in both groups. However, in the long-term period, one patient in the control group (group II) had a reflux of blood through the seed vein and a recurrence of the disease was recorded.

In the first (main) group, in 4 patients, the spermogram remained unchanged after surgery. After surgery, 2 patients showed a deterioration in the quantitative and qualitative indicators of the spermogram, in 2 patients a deterioration in the quantitative, but improved quality indicators, in 9 patients showed a positive dynamics of the spermogram indicators.

In the II (compared) group, in the long-term postoperative period, three patients were under observation, and all showed a positive increase in the quantitative parameter. But one patient showed a deterioration in the quality parameter of the spermogram, and in two patients there was a positive change in the quality parameters of the spermograms.

In the observation period of 6–12 months. after the operation, there was an improvement in the qualitative and quantitative parameters of the spermogram in both groups, but in the main group (I) the concentration of spermatozoa was 1 ml. increased 1.59 times, while in the compared group (II) increased to 1.38 times; the number of live spermatozoa in the main group increased to 1.28 times, while in the compared group it increased to 1.02 times; pathological forms of spermatozoa decreased 4.36 times in group I, respectively 1.74 times in group II. The onset of pregnancy was noted in the wives of patients of group I in 11.7%, and in the patients of group II, in 6.7% of cases within a year.

Discomfort and pain in the scrotum in the postoperative period was observed in all patients in both groups, but in the comparison group in the first two days after the operation all patients (100%) needed analgesics, in the main group in the early postoperative period only anesthesia was needed 20 patients (55.6%).

In the long term, recurrence of varicocele in group I was not canceled; in group II, varicocele recurred in 5.3% of cases.

Thus, the method of ligation of the trunks of the seed vein developed by us has several advantages over the tradi-

tional operation. The main ones are the following: the use of a microsurgical revision of the elements of the spermatic cord and ligation of the venous trunks with the formation of an "internal" suspensor.

Findings:

1. Recurrence of the disease in 51.6% of cases was associated with technical faults in the performance of the primary intervention (left main trunk untied, additional venous trunks, collaterals, periarterial collaterals).

2. Determination of the hemodynamic type of varicocele by ultrasound-doppler sonography and intraoperative phlebotonometry in the spermatic vein system allows choosing the optimal method of operation and preventing the development of a relapse of the disease.

3. The use of microsurgical techniques eliminates intraoperative damage to the testicular artery and lymphatic collectors of the spermatic cord, allows ligation not only of the collateral seminal veins, but also the periarterial trunk.

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Rizayev Jasur Alimjanovich,
Ph D., professor of faculty therapeutic dentistry
department Tashkent State dental Institute
E-mail: Dr. Jasur@gmail.com
Asadullaev Nurulloxon Sagdullayevich,
assistant teacher of department hospital prosthetic dentistry
Tashkent State dental institute

OXIDIZING STRESS FACTORS AND THE ANTIOXIDANT PROTECTION SYSTEM OF ORAL FLUID IN ELDERLY AND SENILE PEOPLE

Abstract: Studying the processes of the LPO-OAS in oral fluid of people of middle age (40 people aged 45–60 years); 43 people of advanced age (61–74 years) (28 women and 15 men); 35senile ones aged 74–89 years (19 women and 16 men) and 15 long-livers (10 women and 5 men over 90 years) and the index age-group (35–44 years) – 42 people (24 women and 14 men) showed that, with an increase in age, accumulation of the LPO products was accompanied by a decrease in activity of the AOS enzymes. It makes relevant application of the measures capable to influence oxidizing homeostasis of oral fluid and eliminate changes in pro-oxidant-antioxidant system.

Keywords:

Dental pathology in people of the senior age-groups is various; patients of this category demonstrate an increase in severity and intensity of inflammatory and destructive lesions of the periodontium, caries and non-caries damages of the teeth as well as pathology of the salivary glands and oral cavity mucous membrane, orthopedic stomatitis etc. [1–4]. Treatment of these diseases require application of a complex of diagnostic, therapeutic, preventive and rehabilitation interventions, long treatment, and considerable financial expenses as well [5–8].

Currently the peroxide pathogenesis concept of many diseases including dental ones is acknowledged; according to it some imbalance develops between the products of lipid peroxidation (LPO) and the antioxidant protection system components [9; 10; 11]. The LPO is a chain-reaction during which a breakage of the oxidation chain is initiated, continued, branched and followed by formation of free radicals of toxic products: ketones, aldehydes, hydroperoxides and others. The LPO intensity is regulated by the balanced correlation of pro-oxidizers and antioxidants (oxidative homeostasis). With ageing, a sharp strengthening of the LPO activity occurs that is beyond the physiological process frame and gets a destructive impact.

Thus, studying oxygen-dependent metabolism and antioxidant systems (AOS) is relevant as it enabled not only to estimate the inflammatory response intensity and its role in the pathogenesis of oral cavity diseases, but also to predict their course and outcome. All set forth above manifests necessity of studying the dynamics of the LPO-AOS processes in oral fluid of people of senior age-groups. Being the links of one chain these processes are interdependent and associated with each other. The prospect of therapeutic impact on these processes playing a key role in the system inflammation, lesions of the mucous membrane of the oral cavity and paradontium is doubtless.

Research objective is to reveal clinical and pathogenetic trends of expression of factors of oxidizing stress and activity of the system of oral fluid antioxidant protection in elderly and senile people.

Materials and methods. According to the WHO classification 42 people (24 women and 14 men) composed the index age-group (35–44 years); 40 middle-aged people of (45–60 years) formed group 1; 43 people of advanced age (61–74 years) composed group 2 that included 28 women and 15 men; 35 senile people aged 74–89 years (19 women and 16 men) formed group 3 and 15 long-livers (over 90 years) composed group 4(10 women and 5 men).

The LPO-AOS system indicators were determined in non-stimulated oral fluid (NSOF). The fluid was collected in the graduated plastic test-tube by spitting it within 6 minutes (Redinova T. L., Pozdeev A. R., 1994); the sample was centrifuged at 3000 rpm; the lypoperoxidation products were determined in the supernatant [12].

The NSOF oxidant activity parameters were determined by V. S. Kamyshnikova's technique. The method reveals the relative level of the isolated double bonds, and also primary and end-products of the LPO; it is based on absorption of the DC, TC, SB extracted from the oral fluid by heptan-izopropanol mixture in the UV-spectrum: diene conjugates (DC), triene conjugates (TC) and Schiff's bases (SB); the concentration of malonic dialdehyde (MDA) determined by reaction with thiobarbituric acid (Kamyshnikov V. S, 2004) [12].

The activity of the enzymes of anti-oxidizing system (AOS) was evaluated by superoxide dismutase activity (SOD)

by Nishkimi method modified by P. G. Storozhuk, A. P. Storozhuk (1998) based on SOD ability to compete with nitroblue tetrazolium (NBT) for superoxide anions formed as a result of aerobic interaction of restored nicotinamide adenine dinucleotide (NAD) (a coenzyme of nucleotide origin) and phenozine methosulfate (PMS); SOD inhibits NBT restoration [12]. Catalase (CT) was determined by Korolyuk method (M. A. Korolyuk et al.) modified by P. G. Storozhuk and S. P. Korochansky (P. G. Storozhuk, S. P. Korochansky, 2001). The method is based on ability of hydrogen peroxide to form the stable colored complex with molybdenum salts. The antioxidant activity was evaluated by registration of rate of oxidation of the restored form of 2,6-dichlorfenolindofenol (2,6-DHFIF) by oxygen dissolved in the reactive serum (Kondrakhin I. P., 2004) while the concentration of ceruloplasmin (CP) was determined by Ravin's (Ravin,) method based on p-fenilendiamin oxidation by ceruloplasmin [12].

Statistical analysis was performed by the methods of variation statistics (mean arithmetic values – M, standard error for the average – m, Student's t-test, degrees of difference reliability – p). Statistical processing of the findings was carried out using the standard software package of the applied statistical analysis (Statistica for Windows v. 7.0).

Results and their discussion. The results of research on oral fluid biochemical indicators in the people under study in the dynamics of their values increasing with age and in the index age-group are presented in the Table and Figure. They demonstrate that an increase in the level of inflammation markers is observed in 75–100% of the people of the senior age- groups.

The MDA role as a marker of oxidizing stress is universally recognized; a change in MDA concentration is a typical process of a number of physiological conditions including ageing, adaptation, and stress. The MDA concentration, being an end-product of LPO degradation, was found to be 0.53 ± ± 0.02 nmol/ml in the index age-group (35–44 years). In elder age it was associated with the MDA concentration growth in oral fluid compared to the index age-group (35–44 years): by 22.64% ($p \le 0.5$) in people of middle age (45–60 years); by 45.28% ($p \le 0.05$) in elderly ones (61–74 years); senile people (75–89 years) had 56.60% ($p \le 0.05$) growth while in the long-livers (90 years and elder) it increased by 83.02% ($p \le 0.05$) (Table, Figure).

Table 1. – Products of peroxidation recurrence and antioxidant enzymes in oral fluid of people of elderly and senile age (M±m)

Lipids, enzymes	Age, years				
	35–44	45–60	61–74	75–89	90 & more
DC, μmol/L	0.88 ± 0.03	0.97 ± 0.04▪	0.02 ± 0.05▪ᵒ	12.2 ± 0.05▪ᵒ×	1.43 ± 0.06▪ᵒ×^
TC μmol/L	0.37 ± 0.01	0.44 ± 0.02▪	0.50 ± 0.02▪ᵒ	0.55 ± 0.01▪ᵒ×	0.60 ± 0.02▪ᵒ×^
SB μmol/L	20.71 ± 0.93	29.62 ± 1.03▪	27.31 ± 1.27▪ᵒ	29.42 ± 1.21▪ᵒ×	31.44 ± 1.42▪ᵒ ×^
MDA, μmol/L	0.53 ± 0.02	0.65 ± 0.03▪	0.77 ± 0.03▪ᵒ	0.83 ± 0.04▪ᵒ×	0.97 ± 0.04▪ᵒ×^
Catalaseμcat/L	3.25 ± 0.13	3.00 ± 0.01▪	0.65 ± 0.02▪ᵒ	2.45 ± 0.05▪ᵒ×	2.03 ± 0.08▪ᵒ×^
SOD,c.u.	93.25 ± 3.65	85.31 ± 3.75▪	80.27 ± 3.77▪ᵒ	70.62 ± 3.21▪ᵒ×	63.08 ± 2.65▪ᵒ ×^
AOA,%	2.06 ± 0.09	1.90 ± 0.03▪	1.81 ± 0.04▪ᵒ	1.42 ± 0.04▪ᵒ×	1.22 ± 0.04▪ᵒ×^

Note: ▪ *– p<0.05 compared to the index group (35–44 years);*
ᵒ *– p <0.05 compared to the group of 45–69-year old;*
× *– p <0.05 compared to the 60–74-year old people;*
^ *– p <0.05 compared to the group of 78–89-year old people*

The levels of DC and TC, the LPO in NSOF primary products, were the following in the index age-group: DC – from 0.88 ± 0.03 μmol/L; TC – from 0.37 ± 0.01μmol/L. The concentration of SB, an end-product of peroxidation of free and membrane-linked lipids in the mixed saliva, makes from 20.71 ± 0.93 to 31.44 ± 1.42 μmol/l. An increase in the primary and end-products of the LPO in age- groups under study was found, for instance, the DC level in people of middle age (45–60 years) increased in comparison to the index age-group (35–44 years) by 10.02%($p \ge 0.05$); in elderly people (61–74 years) by 15.91% ($p \le 0.05$); in senile ones (75–89 years) by 38.64%($p \le 0.05$) and in long-livers (90 years and more) by 61.36%($p \le 0.05$). The corresponding TC dynamics made 18.92% ($p \le 0.05$); 35.14%($p \le 0.05$); 48.65% ($p \le 0.05$) and 62.62 ($p \le 0.05$), respectively, while the peroxidation end-products of Schiff's bases were 18.88%($p \le 0.05$); 31.87% ($p \le 0.05$); 42.06% ($p \le 0.05$) and 51.818%($p \le 0.05$), respectively (Table, Figure).

Indicators of diene conjugate (DC) and triene conjugates (TC), being primary products of lipoperoxidation, and Schiff's bases (SB), i.e. the LPO end-products, indicate the intensity of peroxidation of free and membrane-linked

lipids. One may assume that an increase in DC, TC and SB and MDA values in NSOF is caused by high intensity of some dental pathology, mucous membrane of the oral cavity age degeneration that inevitably leads to higher intensity of pro-oxidant processes. It may be caused by the system biochemical processes accompanied by metabolism disorder in these patients, and constant medication rendering antioxidant effect as well. The concentration of LPO products in mixed saliva enables to assess reliably and objectively the degree of the AOS activity.

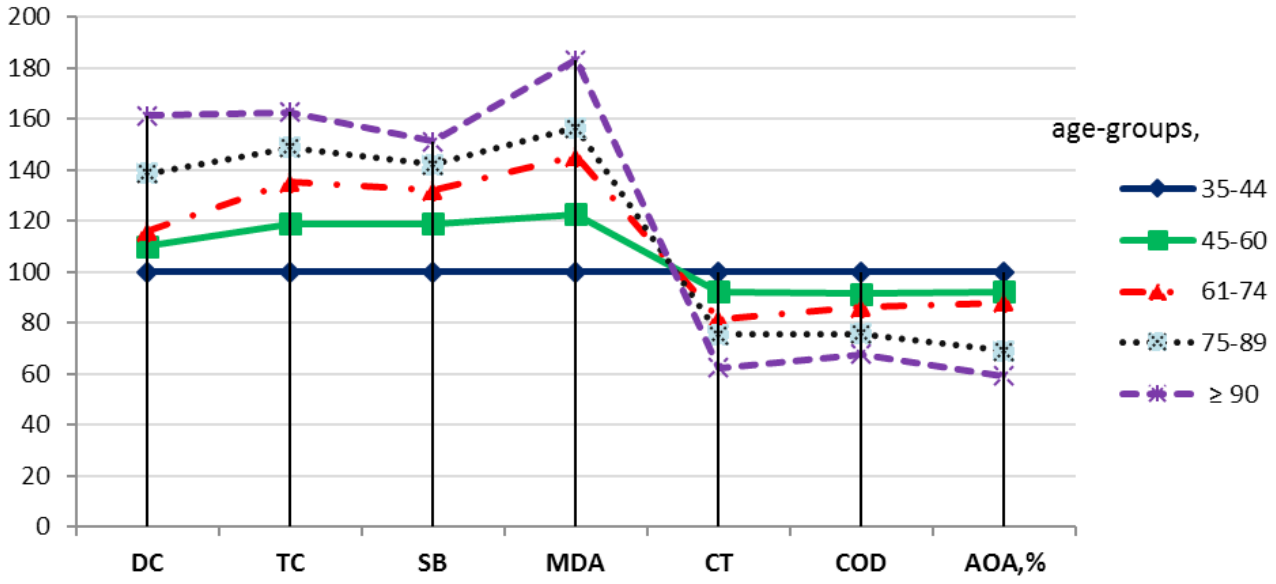

Figure 1. Dynamics of antioxidant system activity and lipoperoxidation in people of elderly and senile age,% (compared to the index age-group of 35–44-year old people)

The antioxidant status of oral fluid was demonstrated by the activity of the first enzyme which is on guard to protect the body from superoxide radicals, superoxide dismutase (SOD), catalyzing the dismutation reaction that results in transformation of a highly reactive anion of oxygen radical (anion superoxide, O^{-2}) into relatively less active hydrogen peroxide and molecular oxygen ($O^{-2} + O^{-2} + 2H + = H_2O_2 + O_2$) as well as in the activity of catalase inactivating the product of SOD reaction, i.e. hydrogen peroxide.

As the presented Table and Figure show, LPO products accumulation was accompanied by a decrease in activity of the AOS enzymes. Reduction of SOD activity in people of middle age compared to the index age-group made 8.51%($p \geq 0.05$); in elder people, a decrease in SOD activity was statistically significant ($p \leq 0.05$) and made 13.92%; 24.27% and 32.35%, respectively. The similar dynamics of the second line enzyme of the antioxidant protection of catalase made 7.69%($p \geq 0.05$); 18.45%($p \leq 0.05$); 24.62%($p \leq 0.05$) and 37.54%($p \leq 0.05$), respectively. The corresponding dynamics of the general antioxidant activity of oral fluid was as follows: 7.73%($p \geq 0.05$); 12.14%($p \geq 0.05$); 31.07% ($p \leq 0.05$) and 40.78%($p \leq 0.05$) (Table, Figure).

It is well-known that the LPO products are found in all tissues and fluids of human body, and an increase in their concentration occurs in various pathological conditions accompanied by more intensive peroxidation. The antioxidant system (AOS), developed in the course of evolution, prevents free radical degradation of the phases of membranes and lipoproteins. It maintains free radical oxidation (FRO) at the level at which the processes damaging cells do not develop, keeping homeostasis in dynamic equilibrium. A failure of mechanisms of peroxidation regulation contributes to excessive accumulation of free radicals. It impairs permeability, structure and function of biological membranes and damages lipids, tissues, nucleic acids. In addition it changes a bio-energy potential of cells when regulatory and protective factors of local immunity decrease; it also leads to deterioration of an oral cavity pathology [1; 10; 13].

Age changes in the mucous membrane of the oral cavity impair microcirculation in the same way as in arteriosclerosis; hemodynamic disorders contribute to growth of the tissue hypoxia signs manifested by reduction of antioxidant potential [5; 13]. Weaker antioxidant protection, accumulation of the LPO products in the oral cavity can be also caused by adentia and insufficient supply of antioxidants associated with it [5; 14]. The general biochemical status plays an important role determining the course of oral diseases and the condition of the major homeostatic mechanisms of the oral cavity, and, hence, the choice of the optimum approach to therapy under all equal conditions [5; 9; 13; 15].

Excessive formation of FRO initiators can exhaust a pool of non-enzymatic antioxidants which, having executed the role of traps of free radicals, turn to inactive products. Deterioration of microcirculation in the parodontium tissue observed in adentia [6], reduces the inflow of antioxidants that strengthens the imbalance in the AOS functioning.

Thus, in oral fluid of people of elderly and senile age, activation of FRO biomolecules, displacement of pro-oxidant-antioxidant balance towards peroxidation, exhaustion of non-enzymatic (thiols) and enzymatic (SOD) links of the AOS and a compensatory increase in catalase activity are observed. However, currently the problems of biochemical diagnostics and prediction of the course of oral pathology in patients of elderly and senile age as well as determination of the optimum methods of diagnostics, prevention and treatment of patients of these age-groups are still in the shadow. In this view, application of methods capable to influence the condition of oxidizing homeostasis and eliminate changes in the pro-oxidant-antioxidant system induced by pathological processes is of special interest.

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Rustamov Murodulla Isomiddinovich,
candidate of medical sciences,
assistant Department of General Surgery,
Samarkand Medical Institute of the Republic of Uzbekistan
E-mail: rustamov.1967@bk.ru

Sherbekov Ulugbek Axrorovich,
candidate of medical sciences,
Head of the Department of General Surgery,
Samarkand Medical Institute of the Republic of Uzbekistan
E-mail: uasherbekov@gmail.ru

Murtazaev Zafar Israfulovich,
candidate of medical sciences,
associate professor of the Department of General Surgery,
Samarkand Medical Institute of the Republic of Uzbekistan
E-mail: zafar.murtazaev1959@mail.ru

Saydullaev Zayniddin Yakhshiboevich,
assistant Department of General Surgery,
Samarkand Medical Institute of the Republic of Uzbekistan
E-mail: zizu_medic86@bk.ru

THE ANALYSIS OF SURGICAL TREATMENT RESULTS IN PATIENTS WITH FOURNIER'S GANGRENE

Abstract: Results of surgical treatment of 13 patients with scrotum gangrene (Fournier's disease) admitted to the proctology department of the 1st SamMI Clinic are observed in the article. The early diagnostics and active management are used for radical surgical treatment of the purulent necrotic focus in combination with necrectomy in step-by-step maneuver. Complex system of the local treatment of the wound, purposeful and multiple component correction of systemic and metabolic disorders of the homeostasis are the real way to improve treatment results.

Keywords: gangrene, necrosis, necrectomy, antibiotic therapy, detox therapy.

Introduction: Clinical studies of the last years have proved the increased frequency of the purulent-septic diseases of soft tissues which were earlier considered casuistic. One of such diseases is Fournie's gangrene which represents a special type of surgical infection in soft tissues with the primary necrosis of the superficial fascia of the external sexual organs and subcutaneous fat with further spreading of the purulent-necrotic process to the anterior abdominal wall, hips and thighs as the morphological base.

In modern literature Fournie's gangrene is interpreted as a specific form of progressing necrotising fasciitis, which is characterized by extensive purulent-necrotic lesion of the superficial fascia and spreading the process through the fascial spaces with typical symptoms of the systemic inflammatory response syndrome (SIRS) and manifestation of systemic endotoxicosis and multiorgan failure [3; 4; 8].

One of the most typical local signs of Fournie's gangrene is discrepancy between comparatively bordered local necrosis of the skin and extensive purulent-necrotic lesion of the subcutaneous fat and fascia (the iceberg phenomena) [7–11]. Even though there is the extensive purulent-necrotic damage of the scrotum skin, testicle, as a rule, are not involved in the process and remain healthy. This is the other particularity of Fournie's gangrene. The viability of testicles is explained by autonomy of their blood supply independently from scrotum and penis, not only by hemodynamic particularities [3; 5; 7].

The clinical course of Fournie's gangrene as a form of surgical sepsis is remarkable for the significant severity, and it is characterized by development of multiorgan failure and high mortality (from 50 to 75%) [10].

The mortality forms 26.7–40% [1; 2; 8], in severe cases it reaches 80% [6; 8; 10], in the group of unoperated patients it is close to 100% [9].

In the opinion of M. V. Grineva and co-aurhors [4; 6; 11], high mortality dictates imperative necessity to refer Fournie's gangrene in category of diseases that require urgent surgical intervention.

Purpose of the work: To produce the analysis of surgical treatment results in patients with Fournie's gangrene.

Materials and methods: During the last 15 years (from 2001 to 2016 years) 13 patients with gangrene of the scrotum (the Fournie's disease) have been treated at the Proctology department of the 1st SamMI clinics. Their age varied from 30 to 60 years old. Nosological reasons of Fournie's gangrene were diseases of colorectal area (13 patients).

Diabetes mellitus was revealed in 3 patients. 4 patients had been hospitalized in the period of the first 3 days of the disease onset, in the period from 4 to 7 dayd – 9 patients.

Slowly progressing (bordered) form of the diseases was noted in 4 patients, in which necrotic process was bordered within the scrotum. 9 patients had fulminant and fast progressing (wide-spread) forms of Fournie's gangrene. The local manifestations were characterized by the primary necrosis of the skin, subcutaneous fat of the scrotum and penis, purulent-necrotic lysis of the superficial as well as deep fascias with spreading of infectious-destructive process to the pubis, groin areas, hips and perineum.

The results and discussion: Treatment of the patients was concluded in more wide excision of necrotic tissues, opening and drainage of purulent leakage. The purposes of the surgical intervention were reconstruction of the scrotum and, by indications, reconstruction operations, directed on replacement of the lost covering tissues and correction of the defects on damaged areas.

Preoperative examination included the standard clinical, laboratory tests; ultrasound of the abdominal organs, EKG, and other specialists' examinations if necessary.

The surgical interventions were performed in condition of general, spinal or prolonged peridural anesthesia. Prolonged peridural blockade, as a method of optimal anesthesia was conducted even in the postoperative period during 3–5 days that has allowed to do the bandaging painlessly and to refuse the use of narcotic painkillers.

In 5 of 13 patients necrectomy was made 3 times in step-by-step maneur, in 4 patients – 4 times, in other 4 patients – 5 times. Microbiological observation of the wounds' discharges showed obligate anaerobic infection in 11 (92%) of 13 patients (Peptostreptococcus spp., Bacteroides spp.), as well as aerobic gram positive (Staphylococcus aureus, Staphylococcus epidermidis, Streptococcus viridans) and gram negative (Escherichia coli, Pseudomonas aeruginosa) microorganisms.

Complex of the treatment included combined antibacterial, infusion-transfusion, detoxic therapies, adequate correction of the metabolic disorders, stimulation of the immune-biological reactivity of the organism and healing processes in the wound.

Local treatment included antiseptic solutions (3% solution of hydrogen peroxide, 0.5% solution potassium permanganate, furacilin, 1% solution of dioxydine) with using moist drying bands. In this stage for the local sanitation a antiseptic decasan solution was broadly used. In order to speedup abruption of the purulent-necrotic debris and defoggings of the wounds in some cases proteolitic enzymes were used (trypsin, chymotrypsin).

In 8 of 13 patients in complex of the local treatment of the wounds infrared ray exposure was used, in 5 patients – quartz irradiation of the wound surface. Also an ointment on hydrophilic base (Levomecol) was used which gives high dehydrating and sanitation effects. When exudative phase had changed to proliferative in order to stimulate metabolic and healing processes in the wound and the connective tissue to be formed ointment with topic action was used (Solcoseryl, Methyluracil)

The complex treatment has allowed to stabilize the condition of 9 from 13 patients gradually, to cure endotoxicosis, to border the purulent-necrotic process within damaged zones, to stimulate healing processes in the wound.

8 of 13 patients had the bordered form of Fournie's gangrene. In 3 of 8 patients the bordered wound defects of the scrotum has healed with secondary intention through scaring. In 5 cases when the scrotum defect was extensive with complete uncovering of the testicles and spermatic cord reconstruction of the scrotum using local tissues through immobilization of the wound edges and secondary stitching after defogging of the wound were performed.

4 of 13 patients died (24%). The mortality is explained by late hospitalization and tardy operation. All deceased patients had the wide-spread form Fournie's gangrene, which was characterized by fulminant and fast progressing course, extensive damage of the scrotum, penis with spreading of the purulent-necrotic process to the anterior abdominal wall, hips and perineum. The reasons of deaths were toxic shock (1 patient), progressing endotoxicosis (2 patients) and pulmonary embolism (1 patient).

The conclusions: thereby, early diagnostics and active management applicable for the purpose of radical surgical treatment of the purulent-necrotic focus in combination with sanitizing necrectomy, complex system of the local treatment, correction of the systemic and metabolic disorders of homeostasis are the real ways to improve the treatment results.

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Sadirova Shakhlo Sobirovna,
The Research Institute of Virology,
Tashkent, Uzbekistan
E-mail: evovision@bk.ru

THE IMMUNE SYSTEM IN RARE AND FREQUENT RELAPSING LARYNGEAL PAPILLOMATOSIS IN CHILDREN

Abstract: Clinical and immunological examination of 54 children with rare (RRLP) and frequent (FRLP) relapsing laryngeal papillomatosis was carried out. As a control, 15 healthy children in comparable age were examined. A decrease in the number of CD16 +, CD3+ and CD4+ lymphocytes, IgA, IgG, and CD4+/CD8+ ratio, an increase in the number of CD95 + and CD19 + cells was revealed.

Keywords: laryngeal papillomatosis, lymphocytes, CD4 +/CD8 + ratio, humoral immunity, cellular immunity, immunoglobulins.

The problem of laryngeal papillomatosis (LP) in children remains one of the most urgent in modern otorhinolaryngology [1; 2; 3]. The significance of the problem is due to the fact that, papillomatous growth affecting the larynx leads to a narrowing of its lumen, disruption of vital functions – respiratory and voice formation. Etiological factor of PL is considered to be the human papilloma virus (HPV) is a member of the papovavirus family. Although the presence of a specific virus is considered to be the main cause of LP, the presence of the virus alone is not enough for the development of the disease [3; 7].

It is known that the supporting the homeostasis, in particular, the control of proliferating cells and virus infected cells maintained by system of immunobiological reactivity, by the factors of nonspecific and specific protection [4; 5; 6; 7]. Consequently, defects of the latter (primary and secondary nature) has effect on the life of viruses and the dynamics of proliferative growth. On the other hand, these processes, apparently, themselves can lead to the formation of immunodeficiency states.

Thus, the study of the immune status of the organism in LP seems appropriate and may have practical significance.

Based on the above, the **aim of the study** was to study the nature and significance of immune status disturbances in children with rare and frequent relapsing laryngeal papillomatosis.

Material and methods. We have studied and evaluated the pathogenetic significance of changes in the immune system in peripheral blood in 54 children patients in school-age with rare and frequent relapsing laryngeal papillomatosis, which were divided into 2 representative groups: 1st group – 35 patients with rare relapsing laryngeal papillomatosis (RRLG); 2nd group – 19 patients with frequent relapsing laryngeal papillomatosis (FRLP). The control group included 17 healthy children of comparable age.

Phenotyping of lymphocytes was performed using monoclonal antibodies CD3+, CD4+, CD8+, CD16+, CD19+, CD25+ and CD95+ (production of Sorbent, Russia, Moscow). The concentration of immunoglobulins of classes A, M and G were determined by radial immunodiffusion by Mancini (1964) using monospecific anti-serum made in the Institute of epidemiology and Microbiology named after N. F. Gamalea.

Mathematical data processing was carried out by methods of variation statistics using standard mathematical software packages with the definition of the average, its error, Student's t test.

Results and discussion. The results of the research showed that in preschool children in the preoperative period of RRLG revealed changes in some parameters of the immune system compared with the control group (healthy children). In the background of normal leukocyte and lymphocyte counts, it was found that in peripheral blood in children with RRLG the relative number of T-lymphocytes was – 50.8 ± ± 1.12%, which is significantly lower than the control values – 58.9 ± 2.15% ($P < 0.001$). No significant deficiency of CD3 + + markers of T-lymphocytes in children with RRLG in comparison with the control data was found in the analysis of their absolute values – 1082.8 ± 55.52 cells/μl. against 1149.1 ± ± 107.32 cells /μl ($P > 0.05$) (table 1).

Table 1.– Cellular immunity indicators

Immunity indicators	Control group n = 17	RRLP n = 35	FRLP n = 19
1	*2*	*3*	*4*
Leucocytes, g/L	5.3 ± 0.30	5.6 ± 0.12	6.6 ± 0.38

1	*2*	*3*	*4*
Lymphocytes,%	35.9 ± 1.32	37.4 ± 1.05	39.4 ± 1.60
Lymphocytes, (abs)	1930.3 ± 159.90	2131.6 ± 98.35	2701.8 ± 252.87
CD3 +,%	58.9 ± 2.15	50.8 ± 1.12	42.8 ± 1.05
CD3 + (abs)	1149.1 ± 107.32	1082.8 ± 55.52	1191.7 ± 129.96
CD4 +,%	33.6 ± 1.75	25.4 ± 0.55	21.4 ± 0.80
CD4 + (abs)	663.3 ± 71.44	545.2 ± 31.44	608.7 ± 74.92
CD8 +,%	23.7 ± 0.93	25.1 ± 0.59	23.1 ± 0.81
CD8 + (abs)	463.9 ± 44.37	541.8 ± 32.05	655.4 ± 78.69
CD16 +,%	12.9 ± 0.65	10.6 ± 0.36	8.6 ± 0.54
CD16 + (abs)	250.3 ± 23.22	227.3 ± 14.16	249.8 ± 37.11
CD4+/CD8+ ratio	1.4 ± 0.08	1.0 ± 0.02	0.9 ± 0.02

Analysis of the results in FRLP showed the following ambiguous changes in cellular and humoral immunity. The relative number of leukocytes in children with FRLP (6.6 ± ± 0.38 thousand cells/μl versus 5.3 ± 0.30 thousand cells/μl in control, P < 0.02) was significantly increased.

In RRLP the tendency to increase (37.4 ± 0.71% and 2151.3 ± 128.26 cells/μl) of the relative and absolute total pool of lymphocytes (at the control of 35.9 ± 1.32% and 1930.3 ± 159.90 cells/μl) was observed. There was a significant decrease in patients with FRLP relative number of CD3 + + lymphocytes (42.8 ± 1.05%, P < 0.001, against the control values of 58.9 ± 2.15%).

During the study of the subpopulation composition of lymphoid cells in the examined children, peculiar changes in functional activity and redistribution of lymphocyte subpopulations were revealed.

Analysis of the results of the study of the relative and absolute content of T-helpers /inducers in RRLP showed a significant decrease in the number of CD4 + cells to an average of 25.4 ± 0.55%, which is 1.32 times lower than the control values (P < 0.001). The absolute number of CD4 + cells tended to decrease, but did not differ significantly from the control values. It is known that CD4 + lymphocytes play a key role in protection against viral infections.

We found that in the blood of healthy children the relative number of T-suppressors/cytotoxic lymphocytes was 23.7 ± ± 0.93% and the absolute number was 463.9 ± 44.37 cells/μl. In the preoperative period in children with RRLP the content of CD8 + cells, both relative and absolute, did not differ from the control group, was 25.1 ± 0.59% and 541.8 ± 32.05 cells/μl, respectively.

In the case of FRLP, there was a significant decrease in the relative (21.4 ± 0.80%, P < 0.001) number and a slight tendency to decrease in the absolute number (608.7 ± 74.92 cells/μl, P > 0.05) of CD4 + cells in untreated patients with the corresponding control (33.6 ± 1.75% and 663.3 ± 71.44 cells/μl) parameters. There was a significant increase in the absolute number of t-suppressor cytotoxic (CD8 +) cells in FRLP (655.4 ± 78.69 cells/μl, P < 0.05). But the relative numbers of these cells remained within the control values.

Consequently, in RRLP and FRLP there is a decrease in the relative content of T-helpers, and the content of T-suppressors did not change, which explains the decrease (P < 0.001) of the immunoregulatory index.

The quantitative study of the relative content of natural killer cells (NKC) showed that in the preoperative period in children with RRLP and FRLP the content of CD16 +-lymphocytes in peripheral blood was 10.6 ± 0.36% (P < 0.01) and 8.6 ± 0.54%, respectively (P < 0.001), which significantly differs from the control values – 12.9 ± 0.65%. The study of the absolute content of CD16 + – lymphocytes in RRLP revealed a tendency to their decrease to 227.3 ± 14.16 cells/μl. compared with the control data (250.3 ± 23.22 cells/μl.), then at FRLP their absolute content was within the control (P > 0.05).

During the immune response, B-lymphocytes (CD19+) differentiate into plasma cells which secretes antibodies. Our studies have shown that in the preoperative period in peripheral blood of children with RRLP the relative content of b-lymphocytes increased and differed significantly from the control group and averaged 27.1 ± 0.73% (table 2).

The absolute value of this indicator tended to increase, but did not differ from the control indicators and was determined within 582.8 ± 34.63 cells/μl. in the control 481,0 ± 49.27 cells/μl.

Relative and absolute numbers of CD19+ cells significantly increased in FRLP (31.1 ± 1.32% and 893.9 ± 113.93 cells/μl versus 24.6 ± 1.21% and 481.0 ± 49.27 cells/μl in the control).

The concentrations of immunoglobulins in the blood serum in healthy children of preschool age showed that the level of IgG was 1168.8 ± of 38.87 mg/%, and in the preoperative period in children with RRLP and FRLP there was a significant decrease in IgG, respectively – 1011.3 ± 23.01 mg/% (P < 0.001) and 906.6 ± 33.73 mg% (P < 0.001).

Table 2. – Indicators of humoral immunity

Immunity indicators	Control group n = 17	RRLP n = 35	FRLP n = 19
$CD19^+$,%	24.6 ± 1.21	27.1 ± 0.73	31.1 ± 1.32
$CD19^+$ (abs. number)	481.0 ± 49.27	582.8 ± 34.63	893.9 ± 113.98
IgA, mg%	131.0 ± 4.52	124.7 ± 4.37	114.7 ± 2.83
IgM, mg%	132.9 ± 7.06	131.0 ± 5.13	136.1 ± 3.02
IgG, mg%	1168.8 ± 38.87	1011.3 ± 23.01	906.6 ± 33.73

The children in the control group, the levels of IgA and IgM in the serum are contained within – 131.0 ± 4.52 mg/% 132.9 ± 7.06 mg/%, and in children with RRLP before the operation, their contents were, respectively,– to 124.7 ± 4.37 mg/% 131.0 ± 5.13 mg/%, which did not differ from indicators of control. The concentration of IgA decreased significantly and amounted to 114.7 ± 2.83 mg% (P < 0.01) in FRLP.

Any immunological reaction, regardless of the predominance of humoral or cellular response, begins with proliferation. One of the criteria for evaluating the proliferative process may be an increase or decrease in the number of lymphocytes with a receptor for IL-2 (CD25+).

The study of the number of lymphocytes with markers of early activation of CD25 + showed that in the preoperative period in children with RRLP, the number of these cells tended to decrease compared to the control group, but did not differ statistically. Thus, the number of CD25 + lymphocytes in the control group averaged 28.1 ± 1.37% and in the main group – 25.7 ± 0.73% (P > 0.05). In patients with FRLP, the relative values of CD25+ significantly decreased to 23.7 ± 0.85% (P < 0.01). The absolute values of these cells also did not differ in comparison with the control values (Table 3).

Table 3. – The performance of some activation markers of the immune system

Immunity indicators	Control group n = 17	RRLP n = 35	FRLP n = 19
$CD25^+$, %	28.1 ± 1.37	25.7 ± 0.73	23.7 ± 0.85
$CD25^+$ (abs)	526.0 ± 38.84	554.7 ± 33.15	657.1 ± 74.55
$CD95^+$, %	25.1 ± 1.73	28.2 ± 0.56	31.2 ± 0.85
$CD95^+$ (abs)	484.6 ± 46.69	606.8 ± 32.98	863.5 ± 99.87

In RRLP, there was a tendency to increase the relative content of lymphocytes with a receptor to apoptosis (CD95 +) to an average of 28.2 ± 0.56% in control of 25.1 ± 1.73%, and in the absolute number of these cells had a significant increase – up to 606.8 ± 32.98 cells/μl. (P < 0.05), at control of 484.6 ± ± 46.69 cells/μl.

In patients with FRLP relative and absolute values of CD95 + lymphocytes significantly increased and amounted to 31.2 ± 0.85% (P < 0.01) and 863.5 ± 99.87 cells/μl (P < < 0.001), respectively.

So, in children with RRLP in the preoperative period, significant changes in the immune system were found in comparison with similar indicators of healthy children. Significant decrease in the total number of CD3, CD4 and CD16 lymphocytes and IgG levels was found. There is a tendency to decrease the number of CD25 cells and a tendency to increase the number of CD8, CD19 and CD95 cells. In FRLP significant increase in the number of CD19 and CD95 cells, a decrease in the number of CD3, CD4, CD16, CD25 lymphocytes and the level of immunoglobulins A and G were found.

Conclusion

The state of the immune system in patients with RRLP and FRLP is characterized by a lack of nonspecific immune defence and T-cell immunity, which is manifested by a decrease in the expression of marker receptors of CD16+, CD3+ and CD4+ lymphocytes; a decrease in the immunoregulatory index (CD3+/CD4+ ratio); activation of CD95+; as well as in the background of increase of contents of B-lymphocytes the concentrations of immunoglobulins IgA and IgG are reduced.

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Samieva Gulnoza,
doctor of medical sciences,
Head of the Department of Physiology and Pathophysiology,
Samarkand State Medical Institute
E-mail: samg83@rambler.ru
Abdirashidova Gulnoza,
assistent of the department of physiology and pathophysiology,
Samarkand State Medical Institute
E-mail: gulnoza_ganisher@mail.ru
Kurbanov Golib,
assistent of the department of physiology and pathophysiology,
Samarkand State Medical Institute
E-mail: kurbanovgolib1988@gmail.com

PATHOGENETIC ASPECTS OF ENDOGENOUS INTOXICATION AND ITS INFLUENCE ON THE COURSE OF VARIOUS FORMS OF STENOTIC LARYNGOTRACHEITIS IN CHILDREN

Abstract: In the pathogenesis of acute stenosing laryngotracheitis (ASLT) in children, one of the leading clinical manifestations is endogenous intoxication syndrome. In this regard, the purpose of our study was to study the effect of endogenous intoxication on the clinical course of acute stenosing laryngotracheitis. The study is based on a clinical and laboratory examination of 275 children with acute stenotic laryngotracheitis. In order to diagnose the nature and severity of intoxication syndrome, we conducted a dynamic study of indicators: SMP, toxic blood factor, CIC. Also carried out the calculation of leukocyte index of intoxication – LII. As the results of studies showed, in patients with ASLT at the height of clinical manifestations, there was an increase in the content of all indicators of endogenous intoxication in comparison with the group of healthy children ($P < 0.05–0.001$). Thus, our studies revealed an increase in the SMP, CEC, TF, which are known to have a direct role in the pathogenesis of bacterial infections. It was revealed that in ASLT in children, the level of endogenous intoxication indicators are in direct proportion to the clinical characteristics and severity.

Keywords: Acute stenosing laryngotracheitis, endogenous intoxication.

Introduction. The problem of combating the syndrome of endogenous intoxication is highly relevant, since this syndrome occurs in almost all children with critical conditions and is leading, including in the pathogenesis of acute stenotic laryngotracheitis (ASLT). Being one of the leading clinical manifestations of ASLT, endogenous intoxication syndrome is the result of destructive processes, as a result of which an excessive amount of intermediate and final metabolic products accumulate in the body, which have a toxic effect on the most important life support systems [1; 2; 4; 10; 12].

In ASLT in patients with exhaustion of reparative processes and a sharp decline in the natural functions of the body, toxic shock can develop. Its development is due to the use of large doses of antibiotics, since this causes the death of a large number of pathogens and the abundant flow of endotoxins into the blood, in which the serious condition of the body is aggravated by a sharp violation of hemodynamics, circulation and perfusion of tissues. In the pathogenesis of shock, the leading place is occupied by the violation of micro – and macrocirculation. It is high endogenous intoxication (EI) in these conditions that is the main factor of mortality. In this regard, it is very important to study the degree of endotoxemia and its effect on the clinical course of ASLT [3; 5; 8].

Of particular interest is the question of the effect of endogenous intoxication on the clinical course of various forms of acute stenosing laryngotracheitis. In this regard, the purpose of our study was to study the effect of endogenous intoxication on the clinical course of acute stenosing laryngotracheitis [6; 9; 11].

Patients and research methods. The study is based on clinical and laboratory examination of 275 children with acute stenosing laryngotracheitis, who were admitted to the Infectious Diseases Hospital No. 3 in Tashkent from 2011 to 2014. All the examined children were divided into 2 groups according to the forms of acute stenosing laryngotracheitis according to the classification of Yu. V. Mitina.

– 1 group of 122 (44.4%) children of patients with primary stenosing laryngotracheitis (PSLT);

– Group 2 – out of 153 (55.6%) recurrent stenosing laryngotracheitis (RSLT).

In order to diagnose the nature and severity of intoxication syndrome, we conducted a dynamic study of indicators: SMP (medium molecular peptides) – according to the method of N.I. Gabrielyan, toxic blood factor using specific antigenic biological tests – test assay for death time paramecium in the serum of the patient (A.A. Pafomov and others). Circulating immune complexes (CIC) were also determined (Haskova and the leukocyte index of intoxication (LII) was calculated (Kalf-Kalif Ya). The degree of endogenous intoxication of the organism was assessed by the content of medium-weight molecules in the serum and the Kalf-Kalif index (leukocyte intoxication index – LII).

The results and discussion. As shown by the results of laboratory studies in patients with ASLT in the midst of clinical manifestations, there was an increase in the content of all indicators of endogenous intoxication in comparison with the healthy group (P <0.05–0.001). For example, the SMP indicators in children with PSLT increased by 94.6%, and in children with RSLT – by 114.6%, the toxic factor in children with PSLT increased by 81.5%, and in children with RSLT – by 134.7%. The level of the CEC in children with PSLT increased by 3.4 times, and in children with RLLT by 4.1 times. Consequently, the level of the CEC in children with ASLT, combined with the severity of the patient's condition. Comparing the information of the indicators in the EI assessment, it should be noted that the LII is the most informative level of which in children with PSLT increased 4.4 times, and in children with RSLT – 7.4 times.

It should be noted that when comparing the indices of endogenous intoxication: SMP, TF (transferin), CEC and LII with clinical symptoms of intoxication, their highest values were recorded in patients with a very serious condition, and the higher the level of EI indicators, the higher the degree of intoxication.

Thus, our studies have revealed an increase in the CEC, which, as is well known, plays a direct role in the pathogenesis of bacterial infections.

Analyzing the data of the foregoing, it can be judged that in the case of ASLT in children, the level of indicators of endogenous intoxication are in direct proportion to the clinical characteristics and severity of the course

Thus, with moderate degree in sick children, the level of SMP increased by 14.7%, with a severe degree – by 94.6% and with a very severe degree – by 141.1%, respectively, to the indicators of healthy children. With moderate degree, the level of toxic factor increased by 26.4%, with severe – by 81.5% and with very severe – by 103.1%, relative to the corresponding indicator of healthy children.

An identical picture develops in children with RSLT. The level of indicators of endogenous intoxication is in direct proportion to the severity of the course of the disease, but the level of these indicators is slightly higher than in children with PSLT. Thus, according to the clinical and biochemical manifestations, the syndrome of endogenous intoxication is a syndrome of inconsistency between the formation and elimination of bacterial exo – and endotoxins, products of normal and pathological metabolism, inflammatory mediators, etc. that causes the severity of the clinical course and the degree of intoxication in children with acute stenosing laryngotracheitis. The level of EI indicators is directly proportional to the severity of the clinical course and the degree of intoxication, and in patients with RSLT this level is slightly higher than in children with PSLT.

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Umarova Gulrukh,
Research Institute of Traumatology and Orthopedics,
Ministry of Health of the Republic of Uzbekistan
Tashkent, Uzbekistan
E-mail: zn.85@mail.ru

VARIOS METHODS OF SURGICAL TREATMENT OF BENIGN TUMORS OF WRIST BONES

Abstract: The article is devoted to minimally invasive treatment of patients with benign tumors of the musculoskeletal system. The aim of the study is to develop methods for optimizing surgical treatment of bone tumors by minimally invasive access. The material of the study was 15 patients with various benign tumor lesions at the level of the bones of the hand. The technique consisted of minimally invasive access and removal of the tumor using an X-Ray. The defect in the plastic was produced by the collagen allograft, and combined bone plasty was also used.

Keywords: benign, tumor, tumorlike diseases, bone, bone plastic, miniinvazive surgical treatment.

In the structure of tumor diseases the bone neoplasms make up 1–4%. The problem of early detection and treatment of tumor-like diseases of wrist bone diseases does not resolve completely. It is because of the anatomical structure of the hand, the variety forms of benign tumor, tumor-like and inflammatory diseases, the absence of a unified approach to the classification of nosological forms of diseases, the problems of differential diagnosis, the lack of a single optimal treatment tactics, a significant number of errors and complications in the form of frequent relapses and violations function of joint. According to various authors, among diseases of the brush, tumors and tumor-like bone processes consist 2% to 13% of cases [2; 5; 6; 8; 12; 18].

The urgency of the problem of bone defect removing arised as a result of cystic formations or bone tumors is a serve issue nowadays. Treatment of patients with benign tumors of the musculoskeletal system is surgical and is aimed at reducing the risk of malignancy, relief of pain syndrome, as well as correction of form and function disorders caused by the tumor [1; 2; 3; 4; 3; 6; 3; 8; 11; 14; 15;16].

The aim of the study is to develop methods for optimizing early diagnosis and surgical treatment of bone tumors through minimally invasive access.

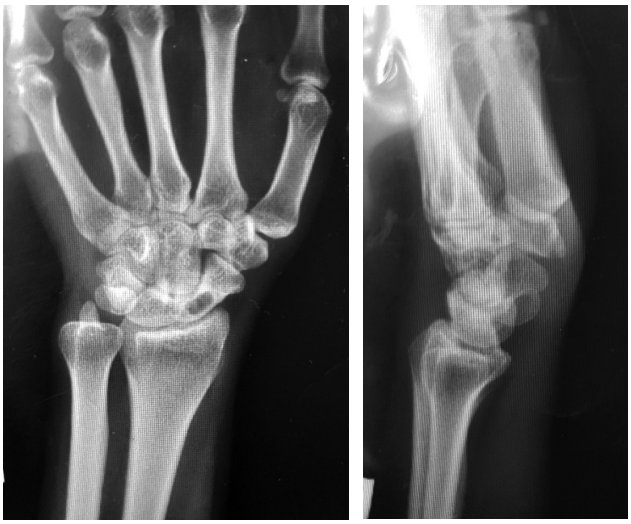
Materials and methods. For 2016–2017 yy, there are 15 patients were treated with various benign tumor lesions at the level of the bones of the hand. The age of patients was from 18 to 50 years. Men and women 1: 2.

Surgical access depended on the localization of the tumor. The technique of performing the operations was that, under the XRay control, the localization of bone formation was determined and marked with a needle. The skin and subcutaneous was cut for 2 cm. The tissues were aparted by blunt method for reached to the bone. The cortical layer of the bone was opened by drill to insert a spoon, and the tumor was removed.

The plastic of the defect in 3 cases was made by bone graft, in 8 cases the cavity was filled with the collagen allograft, in 5 cases was used combined of both.

Control Xrays were performed after 2 months, 6 months and 1.5 years.

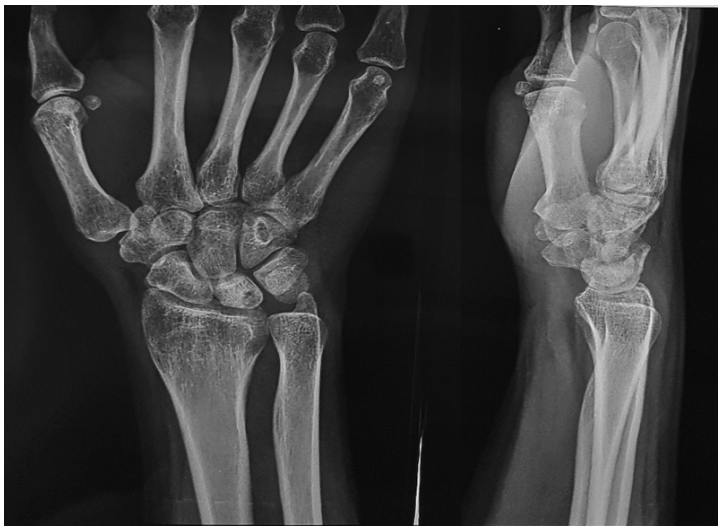
All cases, radiologic and clinical indicators were positive.



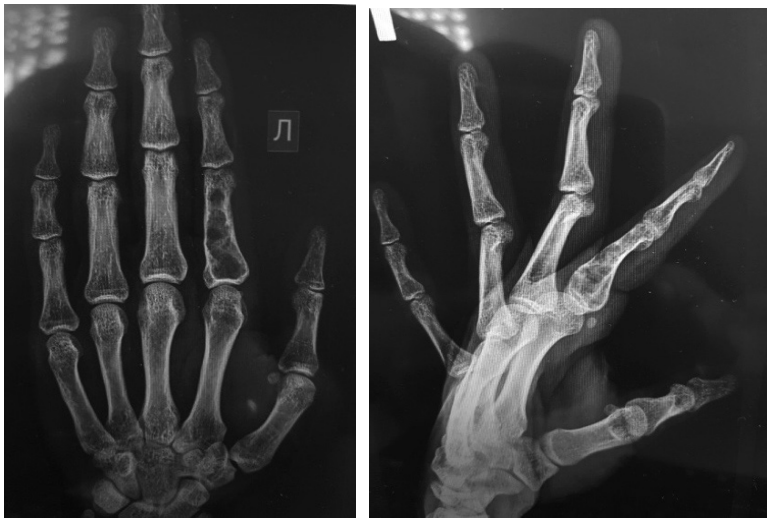
Case 1. Patient R. – brn in 1990. – Diagnosis: scaphoid bone cyst

Results and discussion:

Analyzing literature data, it was revealed that various devices were used in the diagnosis, localization and treatment of cystic bone formations, such as plates wich used at the preoperative stage. But this method had such limitations as the possibility of using only with small bone formations. Also, the method of computed tomography (CT) at the intraoperative stage was used. But CT has a high radiation load, and the equipment is not available in all clinics [1; 2; 3; 4; 5;7; 9; 12; 13; 16;17].



Case 2. Patient A. – born in 1970. – Diagnosis: an endodromf of semilunar bone



Case 3. Patient A. – born in 1991. – Enchondroma of the main phalanx of the second finger

The proposed minimally invasive access under the X-ray control is an effective treatment for cystic, tumor and tumor-like diseases of the bones of the hand and wrist. This technique facilitates intrьiaoperative determination of the localization of education and access to the bones, which reduces the size of the incision and traumatization of surrounding tissues.

According to S. A. Petrov. to date, the views of scientists on the methods of surgical treatment and replacement of postresection defects in the bones of the hand diverge. Controversial views are created with the evaluation of various methods of surgical treatment. Until now, there are no clear indications for certain types of surgical interventions. In the opinion of many authors, the standard method for treating bone neoplasms of the wrist is the removed of the tumor, followed by the plastic of the formed bone defect with spongy auto bone graft (Wulle, S., 1990). Other authors advocate more radical methods of treatment by segmental marginal resection of the affected bone with removal of the tumor within healthy tissues (Bauliya E. N., 1975).

The plastic of postresection defects in the bones of the hand with autobone transplants that have more pronounced osteogenic properties than allografts has the majority of supporters (Kuftyrev, JI.M., et al., 2000; Goto T. et al., 2002).

A variety of biological transplants, organic, inorganic and synthetic materials are available to replace residual bone defects. However, some of them are ineffective, others are inaccessible, others are technically difficult to harvest and use, or require repeated surgical intervention to extract them (Urazgildeev ZI et al., 1998).

The method of choice for the plasticity of defects was mainly used depending on the size of the formation:

- With a formation size of up to 2 cm, defect plasty was applied using the collagen allograft. The use of allograft

reduces the amount of surgery while ensuring the safety of other bones;

- With defects more than two cm, was used auto bone graft plastic or combined bone plastic, which reduces the risk of autotransplant migration;
- The use of an auto bone graft in the form of a rod for cystic bone formation of the bone diaphysis is important when providing its supporting function.

Minimally invasive access under the X-Ray control is an effective method of surgical treatment for benign cystic tumors and tumor-like diseases of the bones of the wrist. In applying this method, positive results were obtained in 89.1% of cases.

Thus, the primary method of treating patients with benign tumors and tumor-like diseases of the bones of the hand is surgical, aimed at maintaining the limb and its functions, reducing the risk of malignancy, as well as preventing relapse.

The proposed method minimally invasive access under the control of X-Ray is an effective method of treatment in cystic tumor and tumor-producing diseases of the bones of the hand and wrist. This method facilitates the intraoperative determination of the localization of bone formation, which decreases the size of the incision and traumatization of surrounding tissues.

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Suleymanov Suleyman Fayzullayevich,
Ph D., senior researcher, Head of the Department
of Microbiology and Phthisiology
of the Bukhara State Medical Institute

Khomidova Saodat Hikmatovna,
Ph D., associate professor
of Microbiology and Phthisiology Department
of the Bukhara State Medical Institute

Mansurova Malika Khasanovna,
Ph D., associate professor
of Microbiology and Phthisiology Department
of the Bukhara State Medical Institute

Sagdullayeva Gulandom Ul'yanovna,
senior lecturer of the department
of Microbiology and Phthisiology
of the Bukhara State Medical Institute,
Bukhara, Uzbekistan
E-mail: ss-1961@mail.ru

IMMUNE STATUS IN PATIENTS WITH DUODENAL ULCER AND INFLUENCE ON HER IMMUNOMODULATORY THERAPY

Abstract: The immunoreactivity was analyzed in 52 patients with duodenal ulcer (DU) and 36 healthy persons. The suppression of T-system and its subsets, a tension of humoral link of immunity was observed in patient. The use traditional method of treatmend was not made a result to disorder of second immunodificiens in patients with DU.

The usage of Thymoptinum, the dose of which was 1.0 mg – 1.2 mg (in one course) at second group patients (n = 24) with DU cured immune disorder, increased cell immunity, and had immunocorrection and eradication features.

Keywords: the immune system, T- and B-link immunity, cellular immunity, humoral immunity, link, thymoptinum immunotherapy, duodenal ulcer, Helicobacter pylori.

The etiopathogenesis of duodenal ulcer disease (DUD) associated with Helicobacter pylori (HP infection) is associated with contamination of the mucous membrane (MM) of the gastroduodenal zone – GDZ (gastric MM – GMM and DMM) with these cytotoxic strains of these bacteria [3; 4]. According to the concept [7], the development of various forms of gastroduodenal pathology depends on the resistance of the microorganism, and HP pathogenic strains can show their cytotoxic effect only when the immunobiological properties of the human body are reduced against the background of the developed immunodeficiency status [2; 5; 6].

The purpose of this study was to study the parameters of immunity in patients with DUD and conduct antihelicobacter and immunocorrecting therapy in them.

Materials and methods. 52 patients with DUD were examined, of whom 37 (71.2%) were men and 15 (28.8%) women aged from 23 to 54 years. The duration of ulcerative history was on average 6.2 ± 2.4 years. The diagnosis of exacerbation of DUD was confirmed endoscopically. The average size (diameter) of the ulcers was 0.9 cm. Contamination of the GMM was determined by urease test. All patients showed a high degree of Helicobacter pylori (HP) infection. Depending on the treatment, the patients were divided into 2 groups: the 1st group (n = 28) received an eradication regimen consisting of Omeprazole (40 mg/day), De-nol (480 mg/day), Tinidazole (1000 mg/day) for 2 weeks; in the 2nd group (n = 24), the same treatment regimen with the 1st group was used, supplemented with Thymoptinum (Uzbekistan) (1 ml of 0.01%) solution subcutaneously every other day; for a course of 10–12 injections).

Cellular immunity was studied using monoclonal antibodies to CD receptors ("Sorbent Ltd", Russia) of the Institute of Immunology of the Ministry of Health and Social Development of the Russian Federation. T-lymphocytes were determined (total population – CD3); T-helpers (subpopulation Th – CD4); T-suppressors (Ts subpopulation – CD8); B lymphocytes (subpopulation of CD19) and immunoregulatory index (IRI) – CD4/CD8. The level of serum

immunoglobulins of classes A, M and G was determined according to Mancini (1968). Circulating immune complexes (CIC) were detected by Hascova.

Immunological examination was carried out for 2–5 days after the patient was hospitalized, and also 1 month after the treatment. The control group for comparison of immunological parameters was 36 practically healthy individuals (25–55 years).

Results and discussion. In a retrospective analysis of the results of immunological examination presented in the table, it was found that the acute phase of DUD was accompanied by a decrease in the level of the general population of T-lymphocytes (CD3). Differences were found in groups with different outcomes of eradication therapy: patients with the 1st group had a lower T-cell content in the blood than patients with the 2nd group. Also in both groups there was an imbalance of T-cell subpopulations with a decrease in their helper share (CD4) and an increase in the number of suppressors (CD8); a significant decrease in IRI and B-lymphocytes (CD19) was registered, which indicates profound changes in reactivity in patients with DUD.

Table 1. – Dynamics of changes in the system of immunity status in patients with DUD in the process of immunomodulatory therapy (M ± m)

Indicators		Patients of the 1st group	Patients of the 2nd group	Control group
CD3(%)	A	39 ± 1.2***	43 ± 2.3**	51 ± 2
	B	42 ± 1.4***	64 ± 2.6***	
CD4(%)	A	25 ± 0.9***	23 ± 1.1***	36 ± 0.7
	B	28 ± 1.4***	44 ± 1.6***	
CD8 (%)	A	15.1 ± 1.4	16.5 ± 1.3	17 ± 1.2
	B	16.2 ± 1.6	19.1 ± 1.0	
ICI	A	1.6 ± 0.2**	1.5 ± 0.2*	2.1 ± 0.1
	B	1.7 ± 0.1*	2.3 ± 0.2	
CD19(%)	A	11 ± 1.2**	11.7 ± 1.5	15 ± 1
	B	13 ± 1.6	17.2 ± 2.1	
IgA, g/l	A	2.2 ± 0.3	2.3 ± 0.4	2.8 ± 0.3
	B	2.5 ± 0.5	2.9 ± 0.2	
IgM, g/l	A	1.3 ± 0.1*	1.2 ± 0.2*	1.6 ± 0.11
	B	1.02 ± 0.2***	1.5 ± 0.2	
IgG, g/l	A	20.4 ± 0.6***	19.4 ± 0.8**	15.9 ± 0.9
	B	19.6 ± 0.7***	18.7 ± 0.5**	

*Note: A – indicators before treatment, B – indicators after treatment; * – p < 0.05; ** – p <0.01; *** – p <0.001 compared to control*

With exacerbation of DUD in both groups, a significant decrease in IgA and IgM levels was observed with a simultaneous increase in IgG indices ($p < 0.01$ in the 1st; $p < 0.001$ in the 2nd group), which indicates violations in the humoral component of the immune system. Changes in immune homeostasis are also accompanied by a significant, 3-fold increase in the level of the CIC ($p < 0.001$).

The formation of a peptic defect is not only the result of local damage to the DMM against an imbalance of aggression and the protection of HP microbial contamination, but also a consequence of a breakdown in adaptation, an imbalance in the immune system. DUD in most patients is associated with intestinal dysbiosis, microbial antigens of which can cause sensitization and exacerbate the immune deficiency in DUD patients [1].

Healing of the peptic defect was achieved in a shorter time with successful eradication of HP (in the 1st group – for 24.8 ± ± 1.2 days with an eradication efficiency of 59%; in the 2nd group – for 17.3 ± 0.46 days with an effectiveness eradication 86%).

After treatment, patients with the 1st group had lymphopenia; the level of the total population of T-lymphocytes CD3 (Table) was reduced, as was its helper CD4 fraction ($p < 0.01$) with a high level of CD8 suppressors, which was significantly different from the corresponding parameters of the 2nd group. A reduction in the IRI to 1.5 at a rate of 2.1 confirms the imbalance in the CD4/CD8 system in patients with ineffective eradication.

Patients of the 2nd group, after immunocorrective therapy, showed an effective increase in the number of T CD3, B cells (CD19) (Table), with a simultaneous increase in the proportion of Th (CD4) and IRI to 2.3 (normal 2.1), which was much higher than similar values from the 1st group ($p < 0.001$). Apparently, a positive shift in the functioning of

the T-cell (an increase in CD3, CD4 and a decrease in CD8) component of the immune system contributes to the eradication of HP. In addition, an increase in B-lymphocytes (CD19) and IgA levels was observed in this group compared to the data before treatment ($p < 0.001$).

Thus, DUD in the recurrence stage is characterized by a deep deficit of most of the parameters of the body's immune system with a high HP infection of GMM and DMM. Predictors of ineffective eradication are a significant decrease in the number of CD3, CD4 and IRI, as well as a decrease in the concentration of Ig A. On the contrary, clinical and endoscopic remission of patients of the 2nd group (immunomodulating therapy) was accompanied by a significant increase in the parameters of cellular-humoral immunity, which positively affected the results of eradication and immunocorrective therapy.

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Tuksanova Zebiniso Izatulloyevna,
assistant of the department of folk medicine,
sports medicine and occupational diseases
of the Bukhara State Medical Institute

Ashurova Nodira Azimovna,
assistant of the department of folk medicine,
sports medicine and occupational diseases
of the Bukhara State Medical Institute

Safarova Gulnoz Avazxonovna,
assistant of the department of folk medicine,
sports medicine and occupational diseases
of the Bukhara State Medical Institute

Hikmatova Madina Furqatovna,
clinical resident of the department of folk medicine,
sports medicine and occupational diseases
of the Bukhara State Medical Institute, Bukhara, Uzbekistan
E-mail: ss-1961@mail.ru

HEALTH STATUS OF SCOOL CHILDREN DEPENDING ON HEALTH CARE ACTIVITIES OF FAMILIES

Abstract: The object for the study of health and lifestyle was a representative group of families (1123) with children of school age, constantly living in Bukhara and observed in medical institutions 4.11-city polyclinics. The analysis of morbidity of 1089 women-mothers, 956 men-fathers and 2196 children of school age. All taken under the supervision of the family were examined by a single specially designed program consisting of 7 sections. As a result of improvement of health literacy of parents, the number of families, which positively changed their lifestyle and improved overall moral and psychological climate in the family, has increased 2.5 times.

Keywords: health, schoolchildren, activity, lifestyle, morbidity, family, children, socio-genetic nature.

Health protection of the younger generation is not only one of the most urgent health problems, but also an important social task of the state, as the health of children represents a fundamental basis for the formation of capacity of the health of adult members of society. Strengthening of the health of children and introduction of measures aimed at its optimization contribute to the successful development of the country, maintaining its stability and social security. This is of particular importance for children – the most vulnerable layer of population, who need special attention of both medical staff as well the parents, who formulate corresponding lifestyle of the family and the child [1–3].

The purpose of the work: to study the state of health of schoolchildren depending on the medical activity of families.

Materials and methods. The object of the study of health and lifestyle was the representative group of families (1123) with school-age children, constantly residing in Bukhara city, followed up by the doctors of medical institutions 4.11 – municipal clinics. Analysis of the health of 1089 mothers-daughters, 956 men-fathers and 2196 school-age children has been accomplished. All families which were subjected to observation were examined using a unified specially designed program consisting of 7 sections: analysis of works published on the studied problem: socio-demographic characteristics of parents raising children of school age; socio-biological characteristics of children of school age; comprehensive socio-sanitary assessment of lifestyle of families with school-age children; comprehensive characteristics of the health status of families with children; factors that shape the health of families with school-age children, the effectiveness of recommendations on interactive recovery adopted by the parents.

Results and discussion. The majority (81.3%) of families belongs to the category of full families. 16.7% of the surveyed families are incomplete due to parents' divorce, and in 89% of cases the initiators of the disruption of the families are women – mothers, who are now a days becoming economically more and more independent, highly estimating their role in the family, and in this connection presenting increased requirements to their husbands. 72.3% of families are bringing up two children, whereas 27.7% of families have three or more children.

The average size of family with school-age children, made up 4.09 person, where one family has 1.2 ± 0.04 child. It is noted that 65.6% of the children came to existence from the first pregnancy, 89.2% – from the first birth delivery. In total 56.3% of children had 7 points or more at birth as per Apgar score. Rather unfavorable is the fact that 43.3% of mothers of surveyed children had a history of abortion. It is well known that abortion negatively affects the health of children, as subsequent pregnancies and childbirth of these women flow with a variety of complications, which affect the development of the child. The results of the study confirm this regularity and suggest there is a direct correlative dependence ($r = + 0.687$. $M = \pm 0.0038$, $p < 0.0001$) between the gestation course and childbirth and abortion history. According to our research, in cases of pregnancy ending by birth of surveyed child, every second mother (53.8%) had various complications of pregnancy and childbirth, including cases of (100 women surveyed): – pregnancy toxicosis (39); – threat of preterm birth (31); – Weakness of birth activity and application of forceps (25); – Improper placenta previa (19),– operations during delivery (10) – anemia (73); – presence of extra genital pathology (9).

The study has established that 75.3% of parents believe that their child is sociable, cheerful and joyful. However, the alarming fact is 14% of parents reported that their child does not seek to communicate with others, and 19% of parents believe that their child is reserved and afraid to come in contact with teachers and other children. Those children who attended preschool institutions (kindergarten, etc.) more quickly adapt to the beginning of school life, they feel more confident and comfortable in the school community. The study of children's progress revealed that children who attend school willingly and with interest easily and quickly learn the curriculum. Thus, the grade point average (GPA) of children who attend school with pleasure made up 4.6; whereas in the group of children who go to school "reluctantly" the GPA was significantly lower – 3.7. It was found that with age the time for preparation of one lesson is reduced (from 28.4 to 18.6 minutes), however the total time spent on homework increases with the transition to higher forms of school. Particular role in this regard is attributed to parents seeking to attract and involve children in different additional exercises and activities: sports, painting, music, foreign languages, etc. It was noted that 17.2% of children are involved in certain additional activities, and with age, the number of such children is significantly increased. It is noteworthy that more than 60% of the children would like to have additional classes, but only 44% – were able to implement their desires.

The study of children's sickness rate indicates that the level is relatively high – average of 1970.3‰. At the same time the incidence of boys at the age of 7 is higher than that of girls (respectively 2483‰against 2445‰), and after the age of 7 years in all age groups the incidence is higher with girls by an average of 5.4%. The analysis of age-specific structure of children's sicknesses revealed no differences between boys and girls. The analysis of the structure of sickness by age showed the general it you diseases of children aged between 7 to 10 years and from 11 to 14 years, which made it possible to divide all the children surveyed into 2 groups. In general, the structure of child sicknesses is presented by the same classes of diseases, which have a different level of prevalence. In overall structure of sickness rate the first 7 ranked places are occupied by the following classes of diseases: respiratory diseases, digestive system, eyes and adnexa, injuries and accidents, some infectious and parasitic diseases, skin and sub-cutaneous tissue diseases, as well as musculoskeletal system. These enumerated classes of diseases account for 81% of all diseases of children aged between 7 to 10 and 75% – at the age of 11–14 years. The analysis of chronic disease rate diagnosed in 21.7% of school children showed its level at 303.8‰. A points system was utilized for integrated assessment of the state of health of the family, which is based on distribution of family members into health groups. The proportion of families that received a very good assessment of health amounted to only 15.8%. Every fourth – fifth family (22.6%) had good health. A big part of surveyed families (35.9%) was allocated to families with a satisfactory health assessment. Alarming is the fact that every fourth family was in poor (21.9%) or very poor (3.8%) health condition. The study of the health status of examined families in connection with their way of life revealed that among the families referred to the group with a good and very good health, healthy way of life was observed, on average 2.6 times more often in comparison with the group of families with bad and very bad health.

Conclusion: It has been established that medico-social behavior of families is determined by the level of social and hygienic lifestyle characteristics, correlation dependence between the considered indications made up $r = 0.461$, $m = 0.0032$, $p < 0.01$. In general, in families with high medical activity, the families with high levels of socio-hygienic characteristics of lifestyle are significantly ($p < 0.001$) often observed than those with low level (41.3% vs. 1.4%). Given that medical activity of family is related to factors that facilitate leveling of the negative impact of socio-hygienic factors of lifestyle, in the course of the study the health of families was analyzed taking into account their medico-social behavior. The obtained results demonstrate the leading role of medical activity in shaping the health of families with school-age children.

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Turdieva Dilfuza Erkinovna,
Tashkent Pediatric Medical Institute
Alieva Nigora Rustamovna
Tashkent Pediatric Medical Institute
Tabibova Mavluda Valievna
Department of Hospital Pediatrics with the basics of alternative medicine,
1-City Clinical Hospital
E-mail: mbshakur@mail.ru

CYTOKINE STATUS INDICATORS AS MARKERS OF INFECTIOUS PROCESS IN NEWBORNS

Abstract: The study of IL-6 and IL-8 cytokines have been designed to confirm the levels of the disease. It has been found in the neonates during the postnatal period. Absence of IL-8 hyperproduction, possibly, immunocompetent cells of neonates.

Keywords: newborn, infection, cytokines, maternal health, pregnancy, postnatal period, especially.

The problem of intrauterine infections (IUI) is the subject of attention of modern perinatology. According to the results of a number of studies, the frequency of IUI among newborns ranges from 27.4–36.6 to 65.0%; in the structure of early neonatal mortality, intrauterine infections, along with congenital malformations, occupy the leading position and reach 25.0 ± ± 0.5% [1; 2]. Infectious pathology is often hidden under the mask of asphyxia, intracranial injury, intrauterine hypoxia of the fetus. The results of neonatal autopsies show that in 37.5% of cases the infection was the main cause of death or complicated the course of the underlying disease [2; 3].

Newborns are the most susceptible group regarding to the occurrence of infectious and inflammatory diseases. These diseases can develop in the early stages of ontogenesis [6]. A large role in the occurrence of these diseases in newborns belongs to the pathology of immunity, the influence of pro-inflammatory cytokines IL-6 and IL-8 [4; 5]. The combination of the properties of IL-6 as a factor of differentiation puts it in a single series with the most important endogenous regulators of immune and inflammatory processes in the body [7]. Intrauterine infection does not always lead to the realization of the infectious process in the fetus. At the same time, immunological tolerance to the pathogen can lead to prolonged persistence and the development of a slow infection.

The **objective** of the research is studying the indicators of the cytokine system IL-6 and IL-8 in newborns to confirm the presence of infection and the risk of infectious and inflammatory diseases (IVZ).

Materials and methods. The research work was conducted on the basis of the Tashkent City Clinical Children's Hospital No. 1. 55 newborns and their mothers were examined. Depending on the clinical and anamnestic data, the children were divided into two groups: 20 newborns constituted the comparison group – newborns without clinical manifestations of infections, whose mothers were diagnosed with an infectious pathology; 35 newborns (main group) were diagnosed with the clinical manifestations of an infectious process – pneumonia, omphalitis, conjunctivitis, nonspecific enterocolitis, sepsis.

Particular attention was paid to the collection of obstetric history, the nature of the course of pregnancy and childbirth, extra – and intragenital pathology of mothers of the examined children. When examining newborns, somatic, clinical and neurological status was assessed daily, clinical tests of blood, urine, feces, bacteriological examinations were conducted weekly, according to indications, X-ray diagnostics of pathological processes.

Concentrations of proinflammatory cytokines (IL-6, IL-8) in newborns of both groups were determined on the basis of the "sandwich" method of enzyme-linked immunosorbent assay (Protein Contour LLC, Tsitokin LLC, Russia). Immunological studies in the early neonatal period were carried out on days 1–3 of the children of the comparison group and 5–7 days in the main group.

Research results and discussion. In the obstetric history of all examined women, the facts of stillbirth (12%), medical abortions (25%), spontaneous miscarriages (23%), non-developing pregnancy (3% of cases) were revealed. Antenatal development of newborns was complicated by exacerbation of hotbed of chronic infection in the mother (48.3%), the presence of anemia (77.0%), acute respiratory infection (70.0%), threatened abortion (75.3%). Childbirth among women estimated in 43.2% of cases, a prolonged anhydrous period (more than 18 hours) and infection of the amniotic fluid was observed, in 19.4% of women delivery was made by caesarean section, 50.3% of newborns had chronic fetal

hypoxia. 26% of full-term babies were born with intrauterine growth retardation.

All observed newborns were breastfed. The overwhelming majority of children were born with an Apgar score of 5–7 on the 1st minute of life, 25% of children had a rating of 4–5, in 10% of cases 0–3 points, respectively. When analyzing the clinical picture of persons in the main group, multiple lesions of various organs and systems as a result of the infectious process were revealed. The most frequent symptoms were intense jaundice (58.4%), anemia (66.7%), and a neutrophilic index of 72.3%. Newborns showed CNS damage in the form of depression syndrome in 24.3% of cases, hyperirritability syndrome – in 55.2% of individuals. Signs of congenital pneumonia and sepsis were observed in a significant number of children.

The study of the mechanisms of cytokine regulation contributes to a deep understanding of the immunopathogenesis of diseases, provides information about the functional activity of various types of immunocompetent cells, the severity of the inflammatory process, and also allows you to study the state of the body's immune system in clinical practice.

The study showed that the presence of IVI in women during pregnancy determined the peculiarity of the immune status of their children. IL-6 overproduction was typical for newborns of the main group (88.4 ± 22.8 pg/ml), rather than for the comparison group, who were born from mothers with IVP (7.99 ± 1.51 pg/ml). These data testify antigenic stimulation of the fetus during pregnancy and stimulation of immunoregulatory mechanisms, therefore IL-6 is involved in the development of inflammatory and immune reactions and has proinflammatory activity.

The concentration of IL-8 was reduced in both groups. In children of the comparison group, the content of IL-8 was 2.17 ± 0.05 pg/ml, in the group of newborns of the main group, the indicator was 31.04 ± 5.70 pg/ml.

These data suggest that IVI formation in newborns occurs against the background of low rates of pro-inflammatory (IL-8) cytokines and the imperfection of immunoregulation processes. Analyzing the data, it should be emphasized that the localization of IVZ occurs with an adequate immune response of the newborn, which manifests itself in the form of overproduction of IL-6 and a decrease in the level of IL-8. The lack of hyperproduction of pro-inflammatory cytokines IL-8 is most likely due to the immaturity of the immunocompetent cells of the newborn.

Thus, IVIs in newborns occur against the background of changes in the cytokine system indicators, which obviously depend on the health status of the mothers, the nature of the course of pregnancy and childbirth. In this regard, the nursing and treatment of children with infectious and inflammatory risk should be carried out taking into account the latest technologies and modern medications.

Findings

1. The features of the immunological reaction of newborns without clinical manifestations of IVIs born to mothers with infectious risk factors are hyperproduction of IL-6, a decrease in the synthesis of IL-8, which reflect their adaptive capacity in the postnatal period.

2. The use of indicators of the cytokine status of IL-6, IL-8 allows predicting the course of the postnatal period.

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Tursunkulov Azimdjon Nazirjonovich,
Tillyashahov M. N.,
Alijanov N. A.,
Ibragimov A. Yu.,
Republican Clinical Hospital № 1
of the Ministry of Health of the Republic of Uzbekistan
National Cancer Research Center of Uzbekistan
E-mail: azimweb@yahoo.com

COMPARATIVE EVALUATION OF THE RESULTS OF OPEN AND LAPAROSCOPIC PROSTATECTOMY FOR LOCALIZED PROSTATE CANCER

Abstract: Prostate cancer (PC) currently occupies one of the first places in the incidence of malignant neoplasms (MN) among the male population in the world. In Russia in 2011, the prostate cancer was rated 2nd (11%) in the cancer incidence in men, while the incidence rate was 43.2 per 100,000 male population (O. I. Apolikhin, 2012; A. D. Kaprin, 2014).

According to the State Statistics Committee of the Republic of Uzbekistan and the Cancer-Register of the Republic of Uzbekistan [13], the incidence rate of prostate cancer in Uzbekistan is 1.2 per 100.000 male population and tends to increase over time, and therefore the issue of finding effective treatments are important and relevant to clinical oncology.

Today, radical retropubic prostatectomy (RPE) remains the standard treatment for localized prostate cancer [14; 15; 16; 18]. But it should be noted that carrying out various surgical interventions on the prostate gland entails a different number of complications, the most common and socially significant of which is the development of erectile dysfunction (ED) and urinary incontinence, which in turn greatly reduces the quality of life for patients.

One of the ways to prevent these complications was the nerve-saving technique of RPE, which was proposed by Walsh in 1982, which provides for the complete or partial preservation of the neurovascular bundles, significantly reducing the incidence of ED in patients who do not have oncological contraindications to preserve the neurovascular bundles (NVB). According to (Walsh P., 2000; Hisasue S., Ghavamian R.) the frequency of ED after using this technique when performing RPE exceeds 25% in patients younger than 60 years and depends on a large number of factors [1; 3; 5;7].

Urinary incontinence, which can develop after performing various variants of RPEs, reaches 20% [9; 10; 17] and is a significant factor that worsens the quality of life for patients in the postoperative period (Miller D., 2005; Penson D., 2005).

One of the main factors influencing the reduction of the risk of ED in the postoperative period is the minimization of injury to the elements of the NVB, which can be solved by implementing a clear intraoperative identification of the elements of the NVB.

The literature describes a large number of techniques proposed by various authors – a technique of mediated intraoperative identification of elements of the NVB, as well as direct visualization of the NVB during an operation [2; 4; 8].

Given the lack of equipping clinics with modern high-tech endoscopic equipment, despite the obviousness of the use of laparoscopic access, the use of conventional RPE remains open [6; 11; 12]. In this regard, the study was aimed at assessing and comparing direct results of RPE and laparoscopic prostatectomy (LSP), as well as the study of some factors contributing to the monitoring of the ongoing processes of complex treatment of this category of patients.

Keywords: prostate cancer, radical prostatectomy, laparoscopic prostatectomy, open prostatectomy, urinary incontinence, PSA, erectile dysfunction.

Materials and methods: Surgical procedures for all patients were performed according to the recommendation of Walsh P. and to the generally accepted standard procedure [15]. After the operation, the patients were admitted to the

intensive care department for 1 day, where, 1 hour after completion of the anesthesia, the patients were offered cold drink.

The patients were put in a semi-sitting position, and in the evening they got out of bed and had a short walk. These measures, as well as the use of anti-adhesive gel, prevent the development of postoperative dynamic intestinal obstruction. The next day after surgery, the patients are transferred to the ward. An ultrasound examination of the abdominal cavity and small pelvis is necessary in order to control the presence of discharge in the insurance drain, which is removed at a volume of less than 100 ml. We are widely using methods of early mobilization, combined with liquid paraffin intake. The patients return to the normal diet on 2 or 3 day after the first defecation. Cystoradiogram is performed on days 6–7 to eliminate the inconsistency of the urethrovesical anastomosis. The catheter is removed the next day after the test. A day later, the patient is discharged from the hospital [7; 12].

General characteristics of research methods

Table 1.– Innate characteristics of patients with prostate cancer depending on the type of surgical intervention

Characteristics of patients	Radical retropubic prostatectomy (n = 38)	Laparoscopic prostatectomy (n = 41)
Age	61. 8 ± 7.1	63.1 ± 7.3
PSA level, ng/ml	12.7 ± 1.3	12.3 ± 2.1
The average size of the prostate, cm^3	39.4 ± 4.1	42.8 ± 5.4
1 stage	23–60 ± 2.7	24–58.5 ± 2.6
2 stage	14–36.8 ± 2.1	15–35.5 ± 5.1
3 stage	2–5.2 ± 5.1	2–4.9 ± 4.9
NVB intersection from 1 side	21–55.3%	18–43.9 ± 6.6
From 2 side	13–34.2%	11–26.8 ± 4.4
Saved	4–10.5%	9–21.9 ± 8.8
Gleason – 6	22 (57.8%)	23–56.1%
Gleason – 7	14 (36.8%)	16–39.1%
Gleason – 8	2 (5.2%)	2–4.9%

The standard observation method is the periodical monitoring of the results of total PSA in blood every three months for the first 2 years after surgery, followed by a transition to semi-annual monitoring for 3 years.

In this study, the following indicators were analyzed: time spent on surgery, the degree of blood loss, the conversion of the operation, the level of intra- and postoperative complications, as well as oncological and functional results.

To determine the level of recovery of erectile function after the intervention, PC-QOL questionnaire was used, the existence of potency was defined as "the ability to achieve and maintain a satisfactory erection in more than 50% of attempts" [9; 10]. Urine continence was defined by us as "no need for pads". Biochemical recurrence was diagnosed in the case of two consecutive values of total PSA more than 0.2 ng/ml. Complications arising in the first 90 days after the operation were recorded and classified according to the modified Clavien system.

Results and discussion

By analyzing the results it was discovered that the average operating time was 203 minutes and 229.7 minutes in case of LSP and 246.4 minutes in case of RPE, while the average blood loss was 169 ml and 145 ml in case of LSP and 178 ml in case of RPE. Analysis has shown that experience and skills of surgeon affect the time spent on surgery, as well as the degree of blood loss. Totally, the need for blood transfusion was needed in 8 cases during RPE and 5 cases during LSP (12.2%) (Table 2).

Table 2.– Intraoperative indicators and functional results depending on the type of surgical intervention

	Radical retropubic prostatectomy (n = 38)	Laparoscopic prostatectomy (n = 41)
1	*2*	*3*
Total operating time, 203 min	246.4 ± 25.3	229 ± 24.8
Average blood loss, 169 ml	178.1 ± 21.2	145.6 ± 18.9
Blood transfusion, 2.3%	8–21.5	5–12.2
Average hospital admission term, 11.7 days	10. 2 ± 3.1	6. 7 ± 2.3

1	*2*	*3*
Complications, 27%	11–28.9%	9–21.9%
Urine continence, 3 months, 83.2%	32–84%	36–87.8%
Urine continence, 12 months, 91%	34–89%	38–92.6%
Erectile function, 3 months, 43.8%	14–36.8 ± 5.4%	23–56.1 ± 8.8%
Erectile function, 12 months, 75.4%	26–68.4 ± 4.6%	33–80.8 ± 4.4%

The overall rate of complications associated with RPE according to the Clayline classification was 28.9%, with a significant proportion of non-life-threatening, and non-surgical interventions complications – I and II degrees (the so-called "minor" complications). LSP-related complications were noted in 21.9% of cases.

Total urine retention, defined as "no need for the use of pads" during RPE, was achieved in 84.2% and 89% of patients after 3 and 12 months of monitoring; 31% of patients reported immediate complete retention after removal of the urethral catheter. Patients who underwent neuro-preserving surgical treatment noted the ability to achieve and retain a satisfactory erection in more than 50% of attempts to have sexual intercourse with or without taking type 5 phosphodiesterase inhibitors in 43.8% and 75.4% of cases after 3 and 12 months of monitoring respectively. In the compared groups of patients (LSP), complete retention of urine was noted after 3 months in 87.8% cases, and after 12 months in 92.6% cases.

The recovery of EF in this group was found in patients in 56.1% of cases after 3 months and 80.8% after 12 months of monitoring.

Therefore, a comparative analysis conducted in this study showed a significant absence of differences in the results obtained for the majority of the main criteria studied ($P < 0.05$), except for a clear tendency for a more rapid recovery of lost functions during LSP ($P < 0.05$).

Anatomical features of the prostate gland determine the formation of major difficulties when performing sigmoidoscopy. Of these, the most common are the following: a large size of the prostate gland, the presence of an average prostate lobe, and a condition after transurethral resection of the prostate (TRP). The presence of these changes has a pronounced effect during the training of specialists, as well as the development of pronounced complications during operations.

At the same time, we consider it possible to note that the technically correct execution of the RPE can be successfully carried out in the absence of the equipment necessary for carrying out the LSP. The goal of radical prostatectomy is the complete removal of the prostate gland with seminal vesicles, accompanied by the absence of a positive surgical margin, the minimal incidence of intra- and postoperative complications, as well as full restoration of the patient's ability to hold urine and erectile function. To achieve this goal, the surgeon needs not only to know in detail and be able to perform all the steps of the standard sigmoidoscopy, but also to be ready to perform complex manipulations in cases of complications during the surgical treatment.

Summary

The study analyzed conditions of 78 patients with verified diagnosis of localized prostate cancer that were treated in the urology department of the Russian Cancer Research Center, who underwent various types of radical prostatectomy (RPE). It has been established that the performance of an open retropubic prostatectomy does not significantly differ from laparoscopic prostatectomy in time, the volume of additional measures and the number of possible complications. Certain advantages of LPE are noted, not excluding the significance of conducting open RPEs as a method of choice in case of lack in equipment.

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Umarov Jamshid,
researcher, Uzbek State University of Physical Education and Sport, Tashkent, Uzbekistan
Kerimov Fikrat,
professor, Uzbek State University of Physical Education and Sport, Tashkent, Uzbekistan
Toychiev Abdurakhim,
researcher, Research Institute of Epidemiology, Microbiology and Infectious Diseases, Tashkent, Uzbekistan
Davis Nikolay,
researcher, Research Institute of Epidemiology, Microbiology and Infectious Diseases, Tashkent, Uzbekistan
Osipova Svetlana,
senior researcher, Research Institute of Epidemiology, Microbiology and Infectious Diseases, Tashkent, Uzbekistan
E-mail: davisnikolay@gmail.com

VITAMIN D LEVEL AMONG ELITE WRESTLERS IN UZBEKISTAN

Abstract: The purpose of the study is to determine vitamin D levels and acute upper respiratory tract infections morbidity among elite wrestlers in Uzbekistan as well as possible association with overtraining syndrome. The study shows vitamin D deficiency/insufficiency is widely spread both in elite wrestlers and population in Uzbekistan. Monitoring of vitamin D level in elite athletes with subsequent correction is necessary. Vitamin D deficiency/insufficiency in athletes correlates with high morbidity with URI and could be associated with OS.

Keywords: vitamin D, elite wrestlers, cytokines, acute respiratory infections.

Introduction

Athletes are at risk for injuries and their prevention and rehabilitation are aspects of great importance. Upper respiratory acute infections (URI) are the most common reason for non-injury-related presentation to sports medicine clinics, accounting for 35–65% of illness presentations. URI can have a negative impact on the health and performance of athletes undertaking high levels of strenuous exercise. The cause of upper respiratory symptoms in athletes can be uncertain, but the majority of cases are related to common respiratory viruses, viral reactivation, allergic responses to aeroallergens and exercise-related trauma to the integrity of respiratory epithelial membranes. Bacterial respiratory infections are less common in athletes [1]. Elite athletes are at a greater risk for injuries and URI; during the Olympic Games in 2016 (Rio de Janeiro), medical staff reported 9.8% injuries and 5.4% illnesses. Of the illnesses, 47% affected the respiratory system and 21% the gastrointestinal system [2]. Another important problem in sport is overtraining syndrome (OS). Etiology of OS remains unclear and the term "unexplained underperformance syndrome" adopted in UK [3] seems to be more justified, because it emphasizes the complexity of the syndrome and its multifactorial etiology [4].

Above mentioned problems are connected or could be connected with vitamin D (VD) deficiency/insufficiency, which is spread throughout the world, including countries subtropical and tropical countries [5; 6]. VD deficiency is common in athletes. For athletes presenting with stress fractures, musculoskeletal pain, and frequent illness, one should have a heightened awareness of the additional likely diagnosis of VD deficiency. Correction of the deficiency is completed by standardized and supervised oral supplementation protocols producing significant musculoskeletal sports health benefits [7]. VD influences the musculoskeletal health and mineral homeostasis. A serum level ≥ 30 ng/ml provides sufficient mineralization of non-mineralized bone matrix and positively correlated with an accelerated regeneration of muscular force. Levels above 40 ng/ml provided a protective effect on the development of stress fractures. Levels above 50 ng/ml are required for athletes to achieve maximal physical performance [8].

VD deficiency/insufficiency correlated with a high frequency and severe course of URI (Owens et al. 2018). VD supplementation is considered as a safe and inexpensive method for URI prevention [9; 10]. This effect can be due to the capacity of VD to increase expression of antimicrobial proteins, in particular cathelicidin in macrophages [11].

Evaluation of the VD deficiency/insufficiency prevalence among athletes as well as among population has not been carried out in Uzbekistan previously.

The purpose of the study is to determine VD levels and URI morbidity among elite wrestlers in Uzbekistan as well as the possible association with OS.

Materials and methods

The prospective diagnostic study was conducted on the basis of the Uzbek State University of Physical Education and Sport and Research Institute of Epidemiology, Microbiology and Infectious Diseases, Tashkent, Uzbekistan during the period from January 2017 till January 2018.

Study participants included 40 elite athletes engaged in freestyle and Greco-Roman wrestling (all males) at the age of 19–24 years. The control group (n = 60) for comparison of VD and cytokines level included healthy individuals of the same sex and age without expressed manifestations of diseases. All the participants were residents of Uzbekistan. Participants were required to complete a comprehensive health screening questionnaire, paying special attention to the number of and medical examination prior to starting the study. Participants could be included if they were currently healthy (with no health problems or infection symptoms within the previous two weeks), engaged in regular sports training at least six months and at least 3 h of total moderate/high-intensity training time per week.

Immunological tests. Participants were required to abstain from any strenuous physical activity for 24 h before coming to the laboratory. Five milliliters of peripheral venous blood was taken (after 8–12 hours of fasting) from each participant and were collected into Human Tube Serum Gel – C/A for ELISA. All blood samples were collected in August and January. Serum levels of 25(OH) VD and TNF-α, IFN-γ and IL-4 were detected by ELISA technique using DIAsource kit, Belgium and LLC kit, Vector-Best, Novosibirsk, Russia respectively.

Classification of the level of VD. Serum VD level was classified as reported by Holick et al. [12]. Levels of VD ≤ 20, 21–29, ≥ 30–150, and > 150 ng/ml were considered as VD deficiency, VD insufficiency, VD sufficiency and VD intoxication, respectively.

The performers of immunological tests did not have access to any information about an individual under examination. All information was blinded.

Frequency of URI was detected by answers of athletes and coaches as well as participants of the control group in questionnaires to the question "the number of URI episodes in summer-autumn and winter-spring".

Previously, authors [13] examining junior wresters showed that intestinal parasites can imitate OS due to the rather high frequency of astenoneurotic syndrome manifesting by the symptoms typical for OS: irritability, mood swings, increased fatigability, performance decrement, sleep disturbances anorexia, etc. So all the athletes were examined for intestinal parasites by triple coproscopy, stool samples were taken with 1–3 days interval.

Statistical analysis. Data analysis was performed with the program Origin 6.1 (OriginLab, Northampton, MA). Results are expressed as mean ± standard error (SEM) for continuous variables and number (percentage) for categorical data. For numerical variables the independent/paired t test were used. The P value < 0.05 was considered as statistically significant.

Results

Table 1 demonstrates that in both groups vitamin D deficiency/insufficiency was prevalent. Frequency of VD deficiency was higher in both groups in winter and VD sufficiency among athletes was not detected in winter. The number of individuals with VD sufficiency was higher in population, but even in summer this index amounted to only 30%.

Table 1. – The level of serum 25(OH) VD in wrestlers (n = 40) and the control individuals (n = 60) in August and January

25(OH) VD level in blood serum	The percentage of participants with VD sufficiency/insufficiency/deficiency no. (%)			
	Wrestlers (n = 40)		Control individuals (n = 60)	
	August	January	August	January
Sufficiency (> 30 ng/ml)	4(10)	abs	18(30)	6(10)
Insufficiency (20–29 ng/ml)	32(80)	28(70)	36(60)	42(70).
Deficiency (< 20 ng/ml)	4(10)	12(30)	6(10)	12(20)

Table 2 shows a significant elevation of TNF-α in the athletes with VD deficiency, which is a biomarker of inflammation. The level of proinflammatory cytokine IFN-γ was significantly decreased, the lowest value was obtained in athletes with VD deficiency. Changes in the level of anti-inflammatory IL-4 were less expressed.

Table 2.– The level of serum cytokines in elite wrestlers with various level of serum VD

Cohort under study	TNF-α pg/ml	IFN-γ pg/ml	IL-4 pg/ml
Athletes with VD deficiency (n = 5)	31 ± 11.9*	5.9 ± 2.9*	4.3 ± 1.8
Athletes with VD insufficiency (n = 10)	22 ± 7.1*	8.1 ± 3.2*	5.1 ± 2.2
Athletes with VD sufficiency (n = 3)	9 ± 15	10 ± 12	2 ± 4
Control individuals (n = 12)	4.1 ± 2.7	17.9 ± 3.1	3.5 ± 1.9

** – significant difference with the control individuals (P < 0.05)*

Table 3 shows the frequency of URI during summer-autumn and winter-spring periods among athletes and the control individuals. In both groups URI episodes were observed more frequently in winter-spring period. However, more than 5 episodes of URI were detected only in elite athletes in winter-spring. 3–4 episodes of URTI regardless of the season were significantly more frequently detected in wrestlers in comparison with the control individuals (P ≤ 0.05).Absence of URI was observed in a very low percentage of elite athletes versus the control individuals.

Table 3.– The frequency of URI during summer-autumn (sum-aut) and winter-spring (win-spr) periods among athletes and the control individuals

The number of episodes of URI	The frequency of URI among participants (%) during summer-autumn and winter-spring periods no. (%)			
	Wrestlers(n = 40)		Control individuals (n=60)	
	sum-aut	win-spr	sum-aut	win-spr
Absence of URI	15(37.5)	–	55(91.6)	24 (41.1)
≤2 episodes	25(62.5)	5(12.5)	5(8.3)	20 (33.3)
3–4 episodes	–	34(85)		6 (16.6)
≥5 episodes	–	1(2.5)		

** – significant difference with the control individuals (P < 0.05)*

All wrestlers were examined for symptoms typical for OS (absence of sport enthusiasm, mood swings, problems with concentration, sleep disturbances, increased fatigability, anorexia, reduced performance, increased morbidity, injury frequency etc. [14] and infections, including intestinal parasites, because previously we found that intestinal parasitic diseases can imitate OS [13]. Study was performed in January. These symptoms were identified in 14 wrestlers. They were examined for infections, including intestinal parasites. Intestinal parasites (*Ascaris lumbricoides, Enterobius vermicularis* and *Giardia lamblia* were found in 8 athletes and after treatment and elimination of parasites symptoms typical for OS disappeared in 6 athletes without any changes in training conditions. Symptoms of OS were persisted in 6 athletes free of infection. VD deficiency was revealed in of them, VD insufficiency was diagnosed in one athlete.

Discussion

Prevalence of VD deficiency/insufficiency was determined in athletes as well as in population (in 90% and 70% of examined individuals, respectively). These values were obtained in summer. The number of individuals with VD sufficiency was higher in population, but even in summer this index amounted to only 30%, in spite of the abundance of sunny days in the year (> 300 days a year), dropping to 10% in winter.

These results were unexpected to some extent, but they were in accordance with data of Shuler et al. [8], that VD deficiency is common in athletes and the incidence of VD deficiency in elite indoor athletes is up to 94%, moreover VD insufficiency can be considered as epidemic in population also.

Significant increase of serum TNF-α concentration was observed in the athletes, it was especially expressed in athletes with VD deficiency. Our results are in agreement with data of Willis et al. [15] on correlation of VD insufficiency with elevated level of TNF-α. Decrease in serum INF-γ concentration was observed. Thus, the dynamics of the cytokines level in deficiency/insufficiency and sufficiency of VD indicates the effect of VD on the immune system. In particular, reduction of IFN-γ increases susceptibility to URI [16]. The number of athletes with VD sufficiency was too small, but it is obvious that IFN-γ level is significantly lower than that in healthy individuals, apparently due to a significant physical load.

Frequency of URI episodes was much higher in wrestlers than in the control individuals independently on the season, among other factors it could be specified by low IFN-γ level,

which is connected with elevated susceptibility to URI [17] and other factors, including suppression of immune system associated with lower VD level and intensive physical load.

Pathophysiology of the OS has not been determined yet. Cytokine hypothesis seems to be close to reality, because the pro-inflammatory cytokines IL-1b and TNF-α affect the brain, causing a decrease in appetite, sleep disturbance and depression, cytokines can act directly on the central receptors or activate the axis hypothalamus-pituitary-adrenal glands, releasing stress hormones, which leads to the same effect [7]. There is evidence of an increase in the level of these cytokines in patients with depression [18]. Thus, VD deficiency can impose OS manifestation.

Efficiency of the training process is ensured by an adequate balance of training load and recovery. OS can be developed in excessive muscle loading and additional stresses as well as concomitant diseases. 6 athletes with persisting OS symptoms were free of infections including intestinal parasites, but were characterized with VD deficiency in 5 cases and in 1 case by VD insufficiency. We assumed that OS can be connected with VD deficiency/insufficiency. This assumption is supported by Sedaghat et al. [19] who established in experiments on animals subjected to chronic stress that VD (1.25-(OH)2VD3) improved the condition of animals, eliminating the main symptoms of stress, which can be interpreted as an indication the role of VD in the OS development.

Conclusion

VD deficiency/insufficiency is widely spread both in elite wrestlers and population in Uzbekistan. Monitoring of VD level in elite athletes with subsequent correction is necessary. VD deficiency/insufficiency in athletes correlates with high morbidity with URI. VD deficiency/insufficiency could be associated with OS.

Disclosure of interest

The authors report no conflict of interest. The project was supported by a research grant from the Ministry of Innovational Development of the Republic of Uzbekistan.

Ethics approval

The study was approved by the Medical Ethics Committee of the Ministry of Health of the Republic of Uzbekistan in accordance with the Declaration of Helsinki. All participants were fully informed about the rationale for the study. Both informed and written consents were obtained from athletes and the control individuals.

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Usmonov Isomiddin Khaydarovich,
PhD., doctoral student of the republican specialized Scientific and Practical Medical Center of Phthisiology and Pulmonology, Tashkent, Chief Physician of the Bukhara Regional TB Dispensary, assistant of the Department of Phthisiology of the Bukhara Medical Institute
E-mail: uisamiddin@bk.ru

Nazirov Primkul Khodgamovich,
doctor of medical sciences, professor, leading researcher of the Republican Specialized Scientific and Practical Medical Center of Phthisiology and Pulmonology, Tashkent, Chief doctor of the TB dispensary of the Republic of Karakalpakistan
E-mail: nazirov.primkul@bk.ru

TECHNIQUE OF USE OF TITANIUM MESH CYLINDER OF EXEMPLARY CAGE TUBERCULAR SPONDYLITIS

Abstract: In this study, 180 patients with tubercular spondylitis (TS), who underwent RRT using titanium mesh cage, were studied. The age of patients was from 19 to 74 years old, an average of 42.4 years. Men – 93(51.7%), and women made up – 87 (48.3%). Of the 180 operated patients using titanium mesh cage, 13(73.9%) of the cage lumen was filled with auto bone, in 26 (14.4%) auto bone + hydroxyapatite with ossein compound + bicillin-5 3.000.000Un., In 15 (8.4%) without filling, and in 6 (3.3%) – hydroxyapatite with an ossein compound + bicillin-5 to 3.000.000U.

Keywords: tuberculosis spondylitis, surgical treatment, titanium cylinder shaped mesh cage.

Actuality: tuberculosis is today one of the most serious medical problems. The urgency of this problem is due to the prevalence of infectious lesions of the spine, which constitute from 2 to 8% of the number of all bone infections. At the same time, the incidence of spondylitis and discitis ranges from 0.5 to 5.9 cases per 100.000 people per year. Despite the modern level of development of medicine, observations of late diagnosis reach 75%, and mortality from spondylitis and discitis 5–12% [2].

The share of extra pulmonary tuberculosis localizations accounts for 4 to 17% of the total incidence of tuberculosis. The proportion of osteo-articular tuberculosis among extra pulmonary localizations ranges from 5 to 52% [5; 7; 12]. Spinal tuberculosis belongs to the category of severe disabling diseases. Many authors point out the peculiarities of the modern course of osteo-articular tuberculosis, which results in an increase of up to 44.7% among newly diagnosed patients with complicated forms of tuberculosis spondylitis (TS), and the frequency of post-mortem detection increased to 0.9% [4].

Compression of the spinal cord and its roots occurs in up to 90.7% of patients with TS, signs of neurological disorders – 69% of cases, including spinal disorders – 44%. Despite the holding of a complex of therapeutic measures in 60% of cases, patients become disabled [1; 6; 8; 9; 10; 11].

Titanium block-grids have been used initially in pure reconstructive surgical orthopedics, and not only in spinal interventions for injuries [3; 18; 20] but also after removal of tumors [16; 21] and ankle arthrodesis [14; 15]. In recent years, data have appeared on the use of titanium block-grids in purulent spinal surgery, both in non-specific processes and in tuberculosis spondylitis [13; 17; 18; 19].

Material and methods of the study: in this study, 180 patients were studied with TS, who underwent RRT using titanium mesh cage. The age of patients was from 19 to 74 years old, an average of 42.4 years. Men – 93(51.7%), and women made up – 87(48.3%). All patients received preoperative preparation and anti-tuberculosis treatment in the period from 20 to 35 days. Spinal fusion with titanium mesh cage was performed on all parts of the spine.

Table 1.– Distribution of operations depending on the location of the vehicle

Spinal departments	Number of patients	%
1	*2*	*3*
Cervical region	6	3.3%

1	*2*	*3*
Cervicothoracic	3	1.7%
Thoracic	36	20.0%
Thoracolumbar	8	4.4%
Lumbar	109	60.6%
Lumbosacral	18	10.0%
Total:	**180**	**100%**

From (table 1), it can be seen that a large number of operations were performed in patients with TS localization in the lumbar – 109(60.6%), in the thoracic – 36(20.0%), and less frequently in the cervico-thoracic – 3(1.7%) and cervical departments – 6(3.3%).

The severity of neurological disorders before the operation was as follows (table 2):

Table 2. – Assessment of the neurological status of patients with admission on a scale of N. L. Frankel et al. (1969) and supplemented by A. Yu. Mushkin et al. (1998)

Degree	Clinical signs	Number of patients
A	Patients with anesthesia and plegia below lesion level	1(0.5%)
B	Patients with incomplete sensitivity disturbances below the level of the lesion, no movement	9(5.0%)
C	Patients with incomplete sensitivity disturbances have weak movements, but muscle strength is insufficient for walking	21(11.7%)
D	Patients with incomplete sensitivity disturbances below the level of the lesion, there are movements, muscle strength is sufficient for walking with other help	56(31.1%)
E	Patients without disturbing sensitivity and movement below the level of injury. There may be altered reflexes	54(30.0%)
R	Presence of radicular syndrome	39(21.7%)

From (table 2), it can be seen that 48.3% of patients were admitted to the clinic with a general serious condition, deep spinal disorders, and in 21.7% of cases they had radicular syndrome and were disabled. The severity of pain syndrome according to the method of F. Denis was: 0 points – no; 1 point – 14(7.7%), 2 points – 27(15.0%), 3 points – 139(77.2%), 4 points – no.

Operations on the thoracic, thoracolumbar, lumbar and lumbosacral parts were performed by anterior-lateral access. The operations on the bodies of the thoracic spine were performed through trans pleural – in 24(13.3%), extra pleural – in 12(6.7%) patients; thoraco-lumbar – torokodiafragmalny access – in 8(4.4%), lumbar and lumbosacral – by extra peritoneal accesses – in 127(70.6%) patients, with cervical and cervical-thoracic – by anterior left-sided access of Burkhardt – in 9(5.0%) patients. When performing operations in the thoracic, thoracolumbar, lumbar and lumbar-sacral parts of the spine, the position of the patient is on the side, and the cervical and cervico-thoracic – on the back.

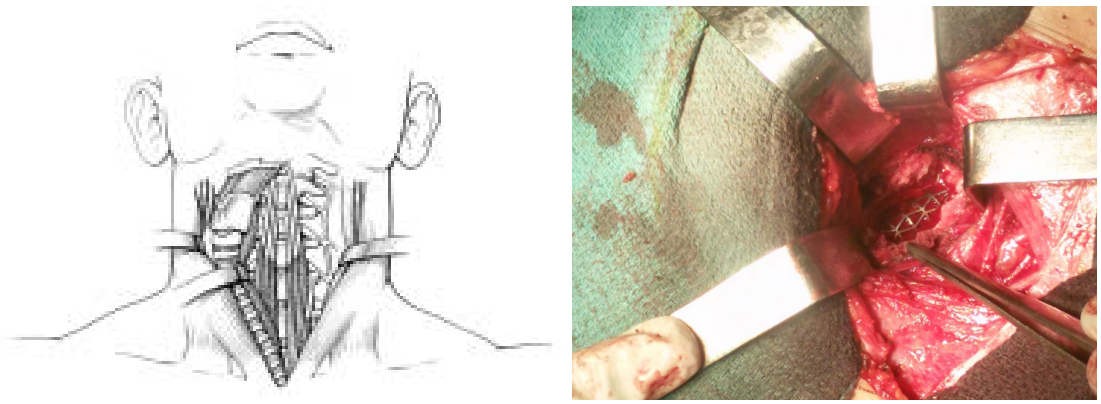

Figure 1. Surgical access and the final form of the operation of the cervical, cervico-thoracic spine

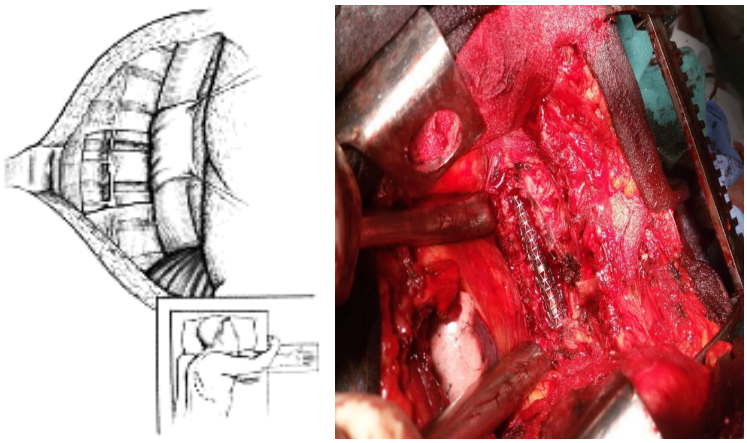

Figure 2. Surgical access and the final form of the operation of the thoracic spine

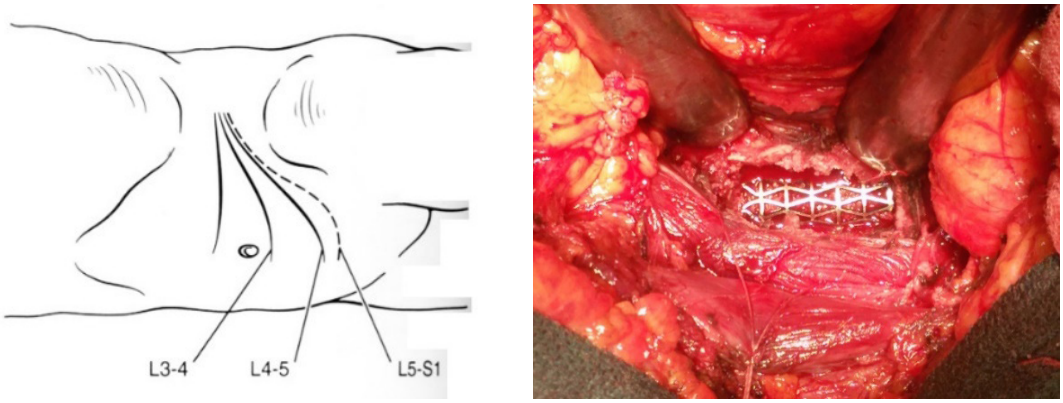

Figure 3. scheme of surgical access and the final form of the operation of the lumbar and lumbosacral spine

The results of surgical treatment depend on the radicalism and stability of the spinal fusion of the affected segment of the spinal column. The most radical and effective were operations in which specific changes were limited. With the defeat of 1–2 vertebral bodies, which were observed in 102(56.7%) patients, the bodies of the affected vertebrae were resected within the healthy bone, and with more common processes, with three lesions – in 69(38.3%) and four vertebrae – in 9(5.0%), extensive excision of a conglomerate of tissue from non-viable remnants of the vertebral bodies, necrotic discs, sequesters, caseous masses was required. Abscesses were removed from 109(60.6%) patients, they were located in the para-, pre-or epidural region in the zone of bone destruction. Due to the presence of spinal disorders in 88(48.9%) patients, the decompression of the spinal cord was performed. After removal of purulent-necrotic masses, fibrous tissues and radical resection of the bodies of the affected spine, spinal fusion is performed – restoration of the supporting ability of the spinal column using a cylinder of the shaped titanium mesh cage (Pyramesh) and conditions for restoring the functions of the spinal cord by decompression, elimination of pathological mobility, prevention of progression of the deformity. After removal of purulent-necrotic masses and resection of the intervertebral discs and vertebral bodies on the border of healthy tissues, anatomical and functional reconstruction of the spinal column is performed. The size of the formed bed is measured with a caliper and trimmer, and a titanium mesh cage is cut. The cage lumen is filled with the above methods or without filling it is installed in the box and the put roller is removed. The implant-cage must stand firmly in the middle of the vertebral bodies so as not to squeeze the spinal cord and its roots. It is impractical to destroy the anterior wall of the spinal cord during resection, since its integrity ensures the stability of the cage and enhances consolidation.

In 8 (4.4%) patients after the implant was placed on top of the cage, additional reinforcement with its own rib was installed (Figure 4).

In 3 (1.7%) patients, two local radical-restoration operation were performed using titanium mesh cage, 2 of them in the lumbar, and 1 in the thoracic spine.

Results and discussion: the efficiency of operations was studied in the early (up to 30 days) and late postoperative period (from 6 months to 4.5 years).

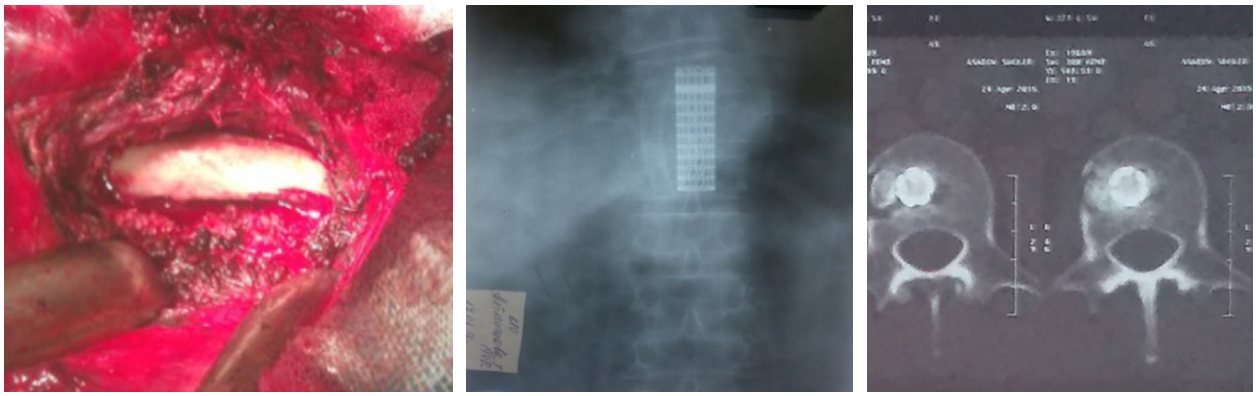

Figure 4. Post-operative condition – combined spinal fusion VL1–2 of the lumbar spine with a titanium mesh cage + auto-bone + free auto graft (edge)

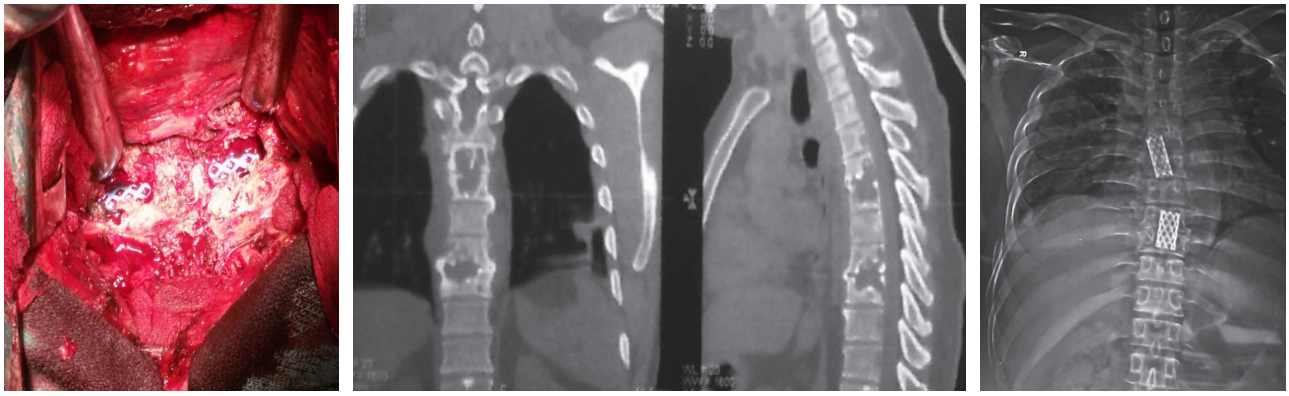

Figure 5. Bi local tuberculosis of the thoracic spine

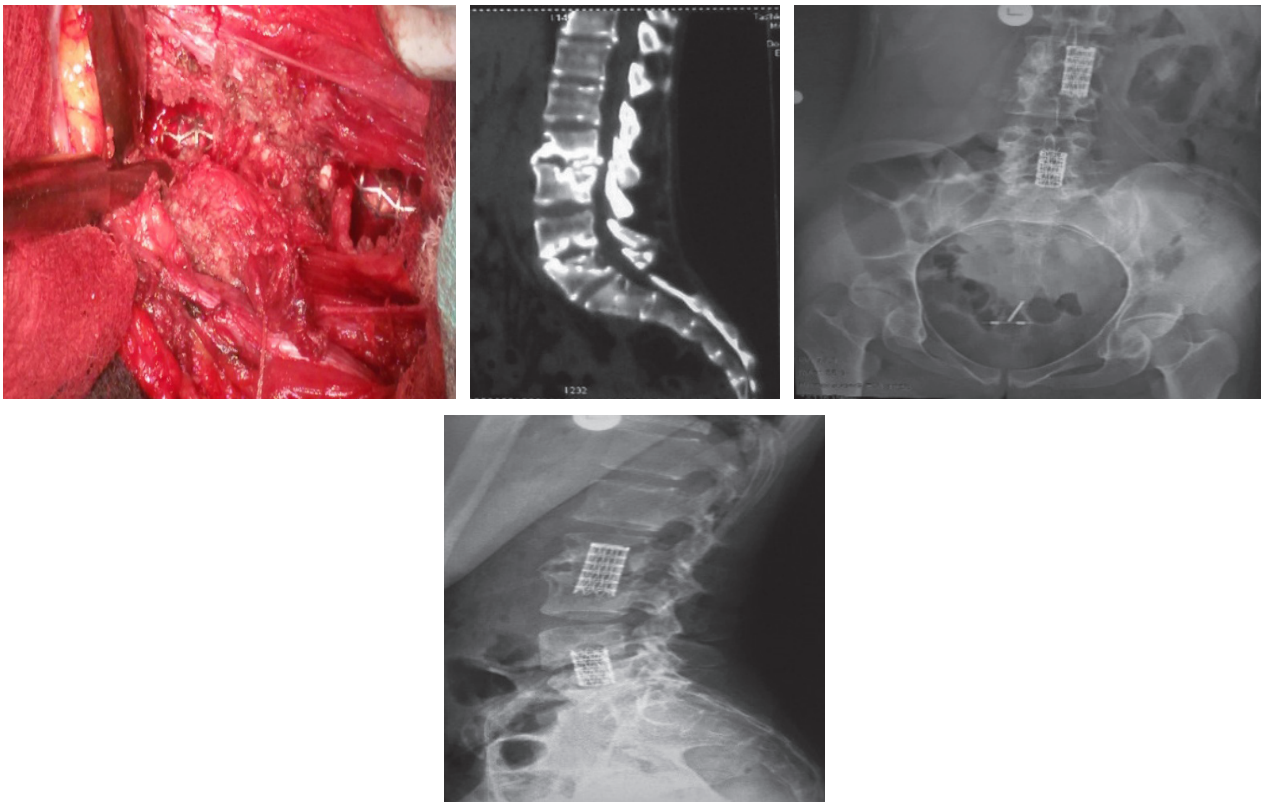

Figure 6. Bi local process in the lumbar spine

From (table 3) it can be seen that after the operation, neurological disorders persisted in the first month – in 160(88.9%), up to 1 year – in 35(19.4%), and more than 1 year – in 17(9.4%) patients, respectively. It should be noted that in the postoperative period up to 1 year and more neurological disorders on the scale of degrees B, C, D were not met, only in a single case, severe spinal disorder in an advanced case of an incoming patient who did not follow the orthopedic regimen at home, as a result which fell and was hospitalized on a scale with a degree "A", a full plegia with dysfunction of the pelvic organs, therefore, it was operated on an emergency basis, but the spinal cord function was not restored, local and rootlets the pains disappeared.

Table 3.– The effectiveness of modern operations with the use of titanium mesh cage in assessing the neurological status (on a scale of H. Frankel et al.)

Degree	Neurological signs	Before surgery	Postoperative period		
			Before 1 month	Before 1 year	Over 1 year
A	Patients with anesthesia and plegia below lesion level	1 0.5%	1 0.5%	10.5%	10.5%
B	Patients with incomplete sensitivity disturbances below the level of the lesion, no movement	9 5.0%	1 0.5%	–	–
C	Patients with incomplete sensitivity disturbances have weak movements, but muscle strength is insufficient for walking	2111.7%	14 7.8%	–	–
D	Patients with incomplete sensitivity disturbances below the level of the lesion, there are movements, muscle strength is sufficient for walking with other help	5631.1%	4625.6%	–	–
E	Patients without disturbing sensitivity and movement below the level of injury. There may be altered reflexes	5430.0%	3117.2%	168.9%	126.7%
R	Presence of radicular syndrome	3921.7%	6737.2%	1810%	42.2%
Total:		**180100%**	**16088.9%**	**3519.4%**	**179.4%**

The results of modern operations using titanium mesh cage according to the criterion of the duration and severity of pain by the method of F. Denis (Table 4) are analyzed. Table 4 shows that pain after the operation for up to 1 month, which requires the use of painkillers, was mainly observed in the first week – in 117 (65%), after the operation on the first night, all patients received narcotic analgesics in the form of injections. From 1 month to a year, there were slight intense pains 1 point – in 12(6.7%), and moderate 2 points – in 6(3.7%), no pain syndrome was observed for more than a year – in 176(97.8%) patients, respectively.

Table 4.– Evaluation of pain syndrome (according to the method of F. Denis) before and after the operation with the use of titanium mesh cage

No.	Duration of pain syndrome	Points				
		0	**1**	**2**	**3**	**4**
1.	Before surgery	–	14 (7.7%)	27 (15.2%)	139 (77.2%)	–
2.	The first night after surgery	–	–	–	–	180 (100%)
3.	After surgery up to 1 month	–	63 (35.0%)	108 (60.0%)	9 (5.0%)	–
4.	After surgery up to 1 year	162 (90%)	12 (6.7%)	6 (3.3%)	–	–
5.	After surgery for more than 1 year	176 (97.8%)	3 (1.6%)	1 (0.6%)	–	–
	Total:	**180 (100%)**				

For a comparative assessment between modern operations, the effectiveness of traditional operation with auto bone currency spinal fusion in pain syndrome (Table 5) was considered.

Table 5.– Evaluation of pain syndrome (according to the method of F. Denis) before and after surgery with spondylodesis bone auto

No.	Duration of pain syndrome	Points				
		0	1	2	3	4
1.	Before surgery	–	7 (7.3%)	13 (13.5%)	76 (79.2%)	–
2.	The first night after surgery	–	–	–	–	96 (100%)
3.	After surgery up to 1 month	–	32 (33.3%)	36 (37.5%)	28 (29.2%)	–
4.	After surgery up to 1 year	43 (44.8%)	28 (29.2%)	16 (16.7%)	9 (9.4%)	–
5.	After surgery for more than 1 year	72 (75.0%)	14 (14.6%)	8 (8.3%)	2 (2.1%)	–
	Total:	**96 (100%)**				

The use of new methods of surgical intervention in patients with TS significantly reduced the volume of operations, unnecessary injuries and the use of additional cuts. Intraoperative blood loss, the duration of operations and anesthesia are also reduced. The duration of operations was reduced from 1.5 to 2 hours, and when conducted by traditional methods, these operations last 2.5–3 hours.

Findings

1. The use of titanium reticulated cylinder of a cage has opened up additional possibilities in the surgical treatment of spinal tuberculosis: the possibility of using auto bone in the form of crumbs obtained from the zone of the operated segment, ensuring stable, strong spinal fusion.

2. When filling the lumen of the cage, especially the crumb of the auto bone + ossein-hydroxyapatite compound + bicillin-5, it helps to obtain early consolidation and long-lasting antibacterial effect in the zone of the operated segment. In 73.9% of cases, the lumen of the cage was filled with auto bone, in 14.4% – auto bone + ossein-hydroxyapatite compounds + bitsilin-5 3.000000 Units., In 8.4% without filling, and in 3.3% with a mixture of ossein -hydroxyapatite compound with bicilin-5. In all cases, positive results were obtained, it has no contraindications, which allows them to be recommended for practice.

3. The orthopedic regime has a special role for obtaining positive results and the possibility of fusion of the bones of the operated segment. When using a titanium mesh cage, postoperative bed restraint is significantly reduced: with the TS of the cervical spine, to 15, the thoracic section, to 23, the lumbar and lumbosacral, to 31 days. The terms of walking on cruTShes are reduced on average to 2, and the corset from 3 to 6 months.

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Utegenova Sohiba Komilovna,
The Research Institute of Virology the Ministry of Health Tashkent, Uzbekistan
Bayjanov Allabergan Kadirovich,
chief doctor of Samarkand Regional Clinical Infectious Disease Hospital, Samarkand
E-mail: evovision@bk.ru

FACTORS AFFECTING NEUROCOGNITIVE FUNCTIONS OF PATIENTS WITH HIV INFECTION

Abstract: Reasonable adaptation of patients with HIV infection is aimed at distributing their strength, taking into account the objective limitations arising from the disease, as well as its potential preserved.

Keywords: HIV infection, neurocognitive functions.

The aim of the work was to analyze the scientific literature devoted to the influence of factors on the cognitive functions of HIV patients, as neurocognitive impairments are one of the main factors influencing the effectiveness of antiretroviral therapy (ART) in HIV patients. The study of the degree of disruption of cognitive functions of the body in patients with HIV before prescribing ART will make it possible to improve the quality of the effectiveness of specific therapy in this category of patients. At present, a large number of risk factors for the development of neurocognitive impairments in HIV infection are known, the diagnosis of which is difficult, especially at the initial stages of HIV infection due to the absence of significant clinical manifestations of this condition. It is known that the human immunodeficiency virus (HIV) penetrates the central nervous system (CNS) in the early stages of the disease and infects microglia and macrophages [1].

Factors associated with the human body include genetic predisposition, metabolic disorders, age, vascular diseases, anemia and nutritional deficiencies, and the factors associated with the immunodeficiency virus include are the following: the state of the virus at the clinical stage – AIDS, immunity activation, subtypes of the virus, neuroadaptation and the resistance of the virus to the antiretrovirals. Also, the accompanying diseases (conditions) plays following role: stress, using psychoactive drugs, viral hepatitis C, depression, tuberculosis and other opportunistic diseases. An important role is played by the activity of antiretroviral and other drugs and side effects of the used drugs. At the beginning of the epidemic, it was believed that the decline in cognitive function in patients before the development of the AIDS stage does not depend on the degree of immunodeficiency, determined by the number of CD4 lymphocytes [2], although the atrophy of the cerebral cortex was noted even in the background of ART [3]. At present, it has been established that on the background of ART, the thinning of the cerebral cortex is significantly associated with the detectable viral load of HIV [4] and that the improvement in cognitive functions is due to its decrease [5], although it does not completely eliminate these disorders.

There is evidence that genetic differences in HIV subtypes, as well as genetic data and age, play an important role in the development of HIV-associated neurocognitive disorders [6], although not all researchers confirm this. Thus, the differences in the effect of the studied HIV subtypes on neuropsychological and volumetric indices of the brain against the background of ART were not revealed [7], although it was noted that patients with the HIV-B subtype had higher CD4 lymphocyte counts and a lower viral load of the immunodeficiency virus compared with patients infected with HIV-C-subtype.

Differential diagnosis of neurocognitive disorders should be carried out with clinical manifestations of brain damage of another (not caused by HIV) etiology/, as well as deficient states (deficiency of B vitamins, zinc), endocrine disorders (thyroid disease, adrenal insufficiency), mental disorders in particular, manic-depressive psychosis, obsessive-compulsive disorder, use of psychoactive substances). In addition, toxic side effects of medications (including antiviral drugs – efavirenz, etravirine, in rare cases lamivudine, abacavir, corticosteroids, interferon) should be considered separately, which, as a rule, affects the quality of life of patients, lead to a change in therapy, but more expensive.

Currently, HIV-associated neurocognitive impairments are a common problem, even in patients with the desired level of CD4 lymphocytes and an undetectable level of viral load of HIV [8].

It was shown that asymptomatic neurocognitive disorders were noted in about half of the patients examined against a background of viral suppression (HIV viral load less than 50 copies/μl) [9]. Moreover, there was no significant difference in the presence of cognitive impairment in persons with a detectable and undetectable viral load [10].

It was noted that in the majority of cases, improvement of cognitive processes occurs in 24–36 weeks from the initiation of therapy in the interval of 12–48 weeks (although in approximately 5% of cases, significant deterioration of these indicators was noted [11], and persists for one year (observation period) It is believed, in particular, that learning and memory are significantly associated with the adherence to the treatment [12].

There is also evidence of the relationship between cognitive function and the severity of depression [13] (although in some studies, there is no reliable association between cognitive impairment rates and symptoms of depression [14]), and the relationship between cognitive function and CD4 lymphocyte counts. In addition to depression, stigmatization and social disorder of patients also have a direct and indirect impact on cognitive functions [15].

In addition, it is believed that improving the treatment of co-morbidities that are common in populations of HIV patients (eg, viral hepatitis C, liver failure, metabolic syndrome) is crucial, as some of these subjects are known to have significant effects on neuronal functions, although these relationships on the background of ART remain not completely clear [16].

It is shown that the development of cognitive impairment is more associated with the risk of vascular disease than with the number of CD4 lymphocytes and the level of viral load [17].

The HCV-core antigen has high immunogenic properties, and its high level can cause disorders of some brain functions [18]. It was noted that infection with the hepatitis C virus causes an additional deterioration in cognitive functions, even against the background of controlled HIV infection [19].

Data on the relationship of cognitive impairment with ophthalmic lesions could not be found in the literature available to us. At the same time, it was noted that HIV-1 is found in tear fluid even against the background of effective ART (this indicates that the lacrimal gland or other tissues and structures of the tear apparatus can serve as a reservoir for the virus) [20].

In conclusion, it should be noted that the reasonable adaptation of patients with HIV infection is aimed at distributing their forces both in view of the objective limitations that have arisen in connection with the disease, and taking into account its preserved potential opportunities. However, if difficulties usually do not arise with the establishment of the somatic status of such persons, then the question has not been finally resolved regarding their neuropsychological conditions. However, the recommendations to this effect have not been adequately worked out. At the same time, even with the intellectual indices kept within the limits of the average norm, it is impossible to say with certainty the absence of cognitive impairments, since there is no information on the patient's prior intellectual level of the intellect. As a consequence, it is not possible to reliably estimate the decrease, in particular, of cognitive indices in the dynamics of the clinical state of the patient. It is believed that exacerbating risk behaviors and suboptimal adherence to treatment can exacerbate cognitive impairment, but the latter also reduce the effectiveness of interventions to optimize adherence and reduce risk. It is known that therapy aimed only at improving laboratory indicators, while ignoring the physical and mental well-being of a person can not remain effective for a long time.

These issues can be solved only on the basis of early active detection and timely clinical, laboratory, instrumental diagnosis of neurocognitive impairment in patients with HIV infection and the application of modern methods of treatment, competent psychological and social support of patients, taking into account the identified changes.

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Bayjanov Allabergan Kadirovich,
chief doctor of Samarkand Regional Clinical
Infectious Disease Hospital, Samarkand
Utegenova Sohiba Komilovna,
The Research Institute of Virology
the Ministry of Health Tashkent, Uzbekistan
E-mail: evovision@bk.ru

PATHOGENETIC ASPECTS OF NEUROCOGNITIVE DISORDERS IN HIV-INFECTED INDIVIDUALS

Abstract: Insufficiency of suppression of viral load in liquor during therapy with protease inhibitors, characterized by moderate penetration into the Central nervous system, indicate that the main role is played by the degree of penetration into the cerebrospinal fluid and substance.

Keyword. CSF, brain, viral load.

HIV remains one of the major global health challenges: it has claimed more than 35 million lives to date. In 2016, 1.0 million people worldwide died from HIV-related causes. At the end of 2016, there were approximately 36.7 million people with HIV in the world, and 1.8 million people acquired HIV in 2016 [3]. Lesions of the nervous system can be observed at any stage of HIV infection: in the subclinical phase-in 20% of patients, in the stage of the developed clinical picture of the disease – in 40–50%, in later stages – in 30–90% [14].

The aim of research. Based on the analysis of scientific literature data on the pathophysiological mechanisms of formation of HIV-associated neurocognitive disorders to identify the factors that determine their severity of violations, to search for optimal methods of their early diagnosis

It is known that the result of immune activation is the increasing loss of CD4 + lymphocytes and the disruption of the HIV-specific immune response. However, persistent activation of immunity also contributes to the emergence of other diseases. In particular, cardiovascular complications, non-alcoholic steatohepatitis, renal dysfunction, osteoporosis, insulin resistance, metabolic syndrome, and HIV-associated neurocognitive impairment [13].

The cause of HIV-associated neurocognitive disorder (HAND) is damage to the central nervous system by the action of the immunodeficiency virus. If untreated, the virus replicates intensively in macrophages and microglial cells of the brain substance. No reliable signs of direct infection of neurons have been identified, however, immunopathological changes lead to functional and structural disorders in these cells. The central nervous system is a relatively independent of the hematolymphatic system of the body, which creates conditions for viral replication and the formation of quasi-species. In the HAND classification, the following degrees of severity are distinguished: "asymptomatic neurocognitive disorder" (ANI), "mild neurocognitive disorder" (MND) and "HIV-associated dementia" (HAD). With an increase in the life span of patients, the prevalence of HAND reaches 20–50% [19].

According to the latest literature, the frequency of detection of neurocognitive impairment is from one-third to one-half of HIV-positive patients in a large population. With the expansion of ART, the prevalence of severe cases decreases, but mild cases increase [11; 12].

The incidence of mild or moderate neurocognitive impairment is higher today than in the period prior to highly active antiretroviral therapy (HAART). The presence of HAND is associated with a shortened lifespan [22].

Before HAART, this pathology was observed in 15–20% of patients. After the introduction of HAART, the frequency has decreased, but to a lesser extent than is typical for other manifestations of AIDS [5].

While the main method of treating HAND in naive patients, of course, is HAART, data on the severity and duration of its effect are unconfirmed. Results from several studies suggest that chronic, progressive, and sometimes intermittent cognitive impairments develop in HIV-infected patients with suppression of plasma viraemia [1; 18].

In the course of longitudinal studies assessing the course of neurocognitive disorder in patients with asymptomatic HIV infection for five years, cognitive abilities were predominantly stable. Earlier initiation of antiretroviral therapy is associated with a decrease in the frequency of HAND [2].

In patients with initially low CD4 levels, several years after the initiation of HAART, cognitive performance was worse than that of HIV-negative, but with a tendency to improve. Severe HIV-associated dementia in patients receiving HAART is rare today. Even in HIV-infected individuals with persistent and stable suppression of viral replication, subjective complaints about mental decline and objective impairment of neu-

ropsychiatric functions, including HIV-associated dementia, are often recorded [20].

On the contrary, in everyday clinical practice, lungs have become more frequent, but clinically significant in relation to work activity are neurocognitive impairments; in addition, in recent years, these manifestations have developed at earlier stages of HIV-induced immunosuppression [5].

Before HAART, the viral load in the cerebrospinal fluid and blood plasma, as well as the current level of CD4, was considered the main predictor of HAND development. Currently, this relationship is denied. Recent research has established the following risk factors for cognitive impairment: minimal CD4, severe immunosuppression or AIDS, prolonged length of HIV infection, low level of education, old age, and elevated plasma concentrations of TNF-α and MCP-1 [7].

The development and persistence of manifestations of HAND, even against the background of HAART, is probably due to a chronic increase in immune activation indices in the CNS [6; 8; 14], which to some extent leads to a "disconnection" of the processes occurring in the brain system.

In modern works on histopathology, there are data on some patients who were diagnosed with HAND several months before death, but after death no signs of active viral replication were detected in the brain substance, only signs of immune activation and neurodegeneration were detected [4; 9].

In patients with marked suppression of virus replication at the system level, severe manifestations of HIV-associated dementia rarely develop, and a high viral load can be detected in the CSF [16; 21].

Histopathological examination in these cases revealed clusters of lymphocyte CD8 +, located perivascular and in the parenchyma, sometimes in close proximity to neurons. Sometimes patients around the patient notice the symptoms of the disease faster than the patients themselves. Typical complaints include slower reactions, impaired memory, concentration and motivation, mild depressive symptoms and a flattening of affective reactions. The correlation between subjective complaints and objective neuropsychological disorders is poorly expressed [3].

Unambiguous disturbances of activity, focal neurological symptoms and signs of lateralization (hemiparesis, aphasia, and others) or meningism are not typical for HAND, as are mental symptoms without concomitant cognitive-motor disorders. HAND is also rarely combined with psychotic symptoms. The diagnosis of HAND is made based on clinical, neuropsychological and instrumental data. Only the results of instrumental studies for the diagnosis of HAND are not enough. From a clinical point of view, cognitive impairment comes to the fore. Psychopathological and, moreover, motor disorders in the initial stages may be absent or be isolated, but there is always severe dementia (stage HAD). There are simple screening tests designed to assess cognitive impairment on the scale of HIV-associated dementia [23].

To some extent, this is the generalized MOCA test, which is also used in Alzheimer's disease [17].

However, the gold standard for diagnosis is a general neuropsychological study, which includes an assessment of cognitive function in at least five domains (speech, attention / working memory, abstract thinking / executive function, learning ability / response to a request, speed of information processing, motor skills).

In 2013, an international consensus was published on the subject of screening, monitoring, diagnosis and treatment of HAND [15].

The goal of etiotropic therapy for HAND is to suppress viral replication in the CNS. In addition, despite the possibility of isolated replication in the central nervous system, antiretroviral therapy in most cases leads to a rapid decrease in the viral load in the cerebrospinal fluid. In parallel, during the first 3–9 months, there is an improvement in neurocognitive indicators. Reports of insufficient suppression of viral load in the cerebrospinal fluid during therapy with protease inhibitors characterized by moderate penetration into the CNS (10) indicate that the degree of penetration into the cerebrospinal fluid and brain matter plays a major role. The question of which antiretroviral drugs and in which combinations it is optimal to prescribe remains unspecified.

The above dictates the feasibility of conducting a study on the pathogenetic mechanisms of development and optimization of the diagnosis and treatment of neurocognitive disorders in HIV-infected individuals.

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Habibova Nazira Nasullaevna,
Bukhara Medical Institute, Scientific applicant
E-mail: nilu74@list.ru

CHARACTERISTIC FEATURES OF FREE-RADICAL PROCESSES AND ANTIOXIDANT PROTECTION IN THE ORAL CAVITY DURING CHRONIC RECURRENT APHTHOUS STOMATITIS

Abstract: The study and assessment of the state of free radical processes and antioxidant defense in saliva in patients with chronic recurrent aphthous stomatitis. It was established that these patients are characterized by a high frequency of diseases of the digestive system, nervous system, allergic diseases and blood diseases. This disease is accompanied by impaired antioxidant protection in the oral cavity, which is manifested by an increase in the content of primary (hydroperoxides) and secondary (MDA) lipid peroxidation products, a decrease in the antioxidant activity of saliva, which correlate with the duration of the disease.

Keywords: chronic recurrent aphthous stomatitis, lipid peroxidation, antioxidant protection, oral cavity, saliva.

Chronic recurrent aphthous stomatitis (CRAS) is considered to be one of the most frequent diseases of the oral mucosa [1; 11]. This disease accounted for 5% of all pathologies of the oral mucosa.

It revealed that about 20% of the world's population suffers from aphthae in this or that period of life. The age of most patients ranged from 20 to 40 years, until puberty suffer equally often people of both sexes, but women predominate among adults [6; 10].

The etiology and pathogenesis of CRAS is still not completely installed. It is known that a significant role in the pathogenesis of chronic inflammatory processes belongs microbiocenosis of oral mucosa [2; 5]. It proved its participation in the metabolism, synthesis of vitamins, and the formation of immune regulation and the nonspecific resistance of the organism [7; 9].

The role of gastrointestinal pathology and pathogenesis of liver diseases in CRAS show clinical and experimental results [3]. Widely discussed issue of allergic genesis of the disease [4; 8].

It is known that disorders of the immune status and free-radical processes can affect the course and prognosis of chronic diseases of the oral mucosa [10; 11].

At the same time, the state of free-radical processes and antioxidant protection oral mucosa in the parameters of saliva in this pathology remains poorly understood. In this regard, the study of pathogenetic mechanisms of recurrence CRAS is an urgent task of modern dentistry.

Aim of the study. Learn the assessment and free-radical processes and antioxidant protection in the saliva of patients with chronic recurrent aphthous stomatitis.

Material and method. To achieve this goal we have been involved for research 418 patients with dental pathology. From this category in 80 patients (19.1 ± 1.9%) were diagnosed with HRAS (main group), among them 46 women (57.5 ± 5.5%) and 34 men (42.5 ± 5.5%) aged 18 to 49 years. The reference group consisted of 20 apparently healthy patients of the same age, including 11 women (55.0 ± 11.1%) men and 9(45.0 ± 11.1%). The average age of onset was generally 33.0 ± 3.7 years, and disease duration 4.5 ± 3.7 years. Studies have been conducted over the period from 2015 to 2017.

HRAS diagnosis was based on anamnesis data and characteristic clinical picture of the disease. Particular attention was paid to the state of the oral cavity: the presence of decayed teeth, sharp edges of teeth of amalgam fillings, prostheses made of dissimilar metals was evaluated quality prosthetic and orthodontic devices.

The level of caries activity was assessed by the method of PA Leus (1990), the oral hygiene condition determined by an index OHI-S (DI-S) by Green JC, Vermillion JR (1964). Estimates of the prevalence and intensity of periodontal tissue destruction of periodontal index performed Russel A. (1956). Patients CRAS more pronounced and widespread tissue damage was found periodontal – periodontal index 4.65 ± 0.09 against 2.25 ± 0.06 points in the control group.

Along with the traditional general clinical and dental practices, to establish the pathogenic mechanisms of CRAS conducted special laboratory studies unstimulated mixed saliva – determining the intensity of lipid peroxidation, antioxidant protection. Determination of the intensity of lipid peroxidation was carried out at a concentration of hydro peroxides according to the method Gavrilova V. B. et al. (1983), malonic dial dehyde (MDA) and total antioxidant activity is not stimulated by the method of mixed saliva Klebanova G. I. et al. (1985) with using spectrofluorimetrical method.

Statistical analysis of the results was carried out using the methods of variation statistics on a personal computer using «Excel» applications.

Results. It is shown that is typical for patients CRAS significantly high level duplex family history of medical illnesses (78.8 ± ± 4.6%, n = 63) compared with the control group (45.0 ± 11.1%, n = 9).

Significant differences from control are identified and the frequency of digestive diseases (87.5 ± 3.7%, n = 70 vs. 45.0 ± ± 11.1%, n = 9), nervous system (73.8 ± 4.9%, n = 59 vs. 25.0 ± ± 9.7%, n = 5), diseases of the endocrine system (51.3 ± 5.6%, n = 41 vs. 25.0 ± 9.7%, n = 5) allergic diseases (40.0 ± 5.5%, n = 32 vs. 5.0 ± 4.8%, n = 5), blood diseases and blood-forming organs (75.0 ± 4.8%, n = 60 vs. 5.0 ± 4.8%, n = 5).

Patients CRAS various degrees of oral mucosa dysbacteriosis noted in 77 (96.3 ± 2.1%) cases. CRAS most common cause of exacerbation of allergic reactions (41.3 ± 5.5%, n = 33), infectious diseases (37.5 ± 5.4%, n = 30), recurrent chronic diseases (35.0 ± 5.3%, n = 28) and high stress situations (40.0 ± 5.5%, n = 32).

In the biochemical study of mixed saliva in patients CRAS were found changes of selected indicators of free radical oxidation. For patients CRAS was characterized by a significant increase in compared with the control group ($p < 0.05$) the content of the primary products of lipid peroxidation (LPO) – hydro peroxides (2.16 ± 0.03 U/ml vs 1.18 ± 0.01 U/ml.) and secondary – MDA (1.27 ± 0.13 nmol/ml.pl vs 0.24 ± ±.01 nmol/ml.pl.). Antioxidant activity of saliva was reduced to 58.8 ± 0.05% in the main group and 15.0 ± 0.05% in the control group ($p < 0.05$). As for the concentration of hydro peroxide, the fair they were seen us rise. Average values exceed similar data in the control group (1.45 ± 0.03 rl.unit / ml vs 1.35 ± 0.03 r.unit / ml), but these differences were not a valid character ($p> 0.05$). Analysis of the mean values of saliva antioxidant activity according to their clinical groups showed a significant decrease.

Of particular interest was the comparison of lipid peroxidation and antioxidant protection indicators with disease duration. Installations intensive growth of the MDA level in saliva with increasing duration of the disease. Thus, if the duration is less than 1 HRAS, the average value of the indicator MDA (0.39 ± 0.01 nmoles/ml.pl.) Differ slightly from those in the control group (0.27 ± 0.01 nmoles/ml.pl). then even when disease duration from 1 to 3 years parameters (0.68 ± ± 0.02 nmoles/ml.pl.) exceed the values of the control group at 2-fold ($p < 0.05$), 3 to 5 years (1.31 ± 0.11 nmoles/ml.pl.) in 4-fold ($p < 0.001$), over 5 years (1.38 ± 0.11 nmoles/ml.pl.) in 6.8-fold ($p < 0.001$).

Increasing the concentration of hydro peroxide with increasing duration of the disease occurred less intensively. When the disease duration of less than 1 year old, and 1 year to 3 years averages hydro peroxides (respectively 1.47 ± 0.04 and 1.41 ± 0.03 rl.unit/ml) did not differ from those in the control group (1.35 ± 0.03 rl.unit/ml). In patients with a longer history of disease hydro peroxide concentration in saliva was significantly higher than in controls and patients with less prescription disease ($p <0.05$). Thus, in patients with disease duration from 3 to 5 years, it was 2.31 ± 0.09 relative units/ml, and for a duration of more than 5 years 3.05 ± 0.1 relative units /ml, 1.6 and 2.2 times, respectively, higher than in the control group ($p <0.001$).

It should be noted, that was obtained by close, direct correlation parameters and MDA hydro peroxide duration of CRAS.

The dynamics of antioxidant activity of saliva in patients with CRAC with an increase in the duration of the disease was characterized by a tendency to decrease. In patients with a disease duration of less than 3 years antioxidant activity differed little from those in the control group (29.4 ± 0.05%) less than 1 year, respectively 27.7 ± 0.3% and from 1 to 3 years 35.8 ± ± 0.07%. With further increase in the duration of disease (more than 3 years) indicated a greater reduction in antioxidant activity: more than 3 to 5 years 27.2 ± 0.06% and 5 children 26.8 ± 0.12%. These changes were unreliable nature ($p > 0.05$), but in determining the correlation indicators the antioxidant activity of disease duration was an inverse relationship with very high correlation coefficient – $\rho = 0.909$.

It should be noted on the dependence of the activity of free-radical processes in patients CRAS the predominance of a particular type of oral microflora. The most pronounced changes were observed LPO in the presence of Klebsiella and fungal flora.

Thus, patients with marked disorders CRAS free-radical processes in the oral cavity are characterized by an increase in the intensity of POL process, and depression of the antioxidant system. The level of lipid peroxidation and ant oxidative defense saliva depends on the duration of the disease and the composition microflora in the oral mucosa.

Conclusions 1. It is found that for patients with chronic recurrent aphthous stomatitis characterized by significant levels of duplex family history of medical conditions, the high frequency of comorbidity such as the digestive diseases, nervous system, allergic diseases and diseases of the blood.

2. Chronic recurrent aphthous stomatitis accompanied by disturbances of antioxidant protection in the oral cavity, which is manifested by increased content of LPO products – primary (hydro peroxides) and secondary (MDA) products, reduced saliva antioxidant activity that correlate with disease duration.

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Khamdamov Bahtiyor Zarifovich,
PhD., in Medicine, Associate Professor
of the Department of Faculty
and Hospital Surgery,
Bukhara State Medical Institute

Islomov Anzur Anvarovich,
Resident Magister's Department
of Faculty and Hospital Surgery,
Bukhara State Medical Institute

Jabborova Nigora Jafarovna,
student of Medical Faculty
of the Bukhara State Medical Institute

Khamdamov Ilkhom Bahtiyorovich,
Resident Magister's Department
of Faculty and Hospital Surgery,
Bukhara State Medical Institute

Khamdamov Alisher Bahtiyorovich,
student of Medical Faculty
of the Bukhara State Medical Institute,
Bukhara, Uzbekistan
E-mail: ss-1961@mail.ru

METHOD OF PREVENTION OF POSTOPERATIVE COMPLICATIONS OF SURGICAL TREATMENT OF DIABETIC FOOT SYNDROME

Abstract: The results of lower limb amputations at the level of the lower leg in 130 patients with diabetic foot syndrome (DFS) were analyzed. All patients, depending on the method of treatment, were divided into 2 groups: the first consisted of 63 patients who underwent complex conservative therapy after amputation; the second consisted of 67 patients who underwent complex conservative therapy + laser photodynamic therapy (LPDT) after amputation at the level of the upper third of the tibia. The use of LPDT is a promising development that increases success in the prevention of postoperative wound infections from the amputation stump of the tibia.

Keywords: diabetes mellitus, diabetic foot syndrome, amputation, leg, stump, laser photodynamic therapy, postoperative period, tibia.

In recent years have been observed a steady increase in the incidence of diabetes mellitus (DM), which already occupied the 3rd place after cardiovascular and oncological diseases. The number of patients approaches the 3.0% and in the older age group to 7–9% in relation to the entire population of Earth. According to some authors the prevalence of DFS among patients with diabetes reaches to 25%, and 15–40% of them will sooner or later develop ulcerative necrotic complications, which requires surgical treatment and often leads to amputations. Early complications after amputation of lower limbs, according to foreign authors, ranges from 20 to 50% [1–4].

The risk of postoperative complications often lead to the selection of unjustifiablehigh but a "more reliable"level of amputation and this causes damage the patient's rehabilitation.The result of amputation is usually estimated only from the point of view of healing of the stump and mortality.Postoperative mortality is high and the survivals of patients areconsidered success ofsurgeons.So, after amputations at the hip 10–40%, and at the tibia 5–20% of the operated patientsdies.During the 3 year after high amputation at the hip dies from 40 to 57% patients, and after 5 years die 50–75% of patients. In coming five years in patients who witnessed amputation at the hip level, arise destructive complications of the sole collateral limb and this also in 50–67% cases ends with amputation [3; 5].

The basis of modern principles of choice of the level of amputation is the preservation most part of the lower limb in condition healing of the stump and its suitability for prosthetics. As is known, in recent years, in advanced stages of DFS

alternative high amputations at the hip began applying the amputation at tibia with preservation of the knee joint with its main function, which enables fast recovery of the patients because of convenience this of prosthetic limbs. However, the high rate of development of wound infection in the postoperative period, limits wide use of low-level amputations of the leg. There are many publications devoted to the treatment of purulent wounds. At the same time, neither experimental data nor by numerous clinical and special researches were not able to find the method that brought to the decide the problem of treatment of wound infection [7].

Photodynamic therapy (PDT) is one of the most promising methods of treatment of patients with wound infection.It should be emphasized that the effectiveness of PDT does not depend on the spectrum of sensitivity of microorganisms to antibiotics, it is destructive even for antibiotic-resistant strains of microorganisms[6]. In pathogens do not arise resistance toward PDT, photodynamic damage locally impacts on pathogens, and the bactericidal effect is limited because of the area of laser radiated sensitized tissues, thus avoiding adverse effects associated with the use of traditional methods of treatment of surgical infection [4; 6; 7].

The research is aimed to study measures prevention of postoperative wound complications by the applying of PDT and this is considered the topical problem of medicine.

The purpose of the research: to study of the role of PDT in the prevention of postoperative wound complications associated with amputation stump of the tibia in patients with DFS.

Material and methods. Analyzed 130 patients the after amputations of the lower limb at the tibia with DFS syndrome who was hospitalized in Purulent Surgery Department of the Bukhara multidisciplinary medical center from 2010 to 2017. The age of patients ranged from 40 to 84 years

All patients depending on the method of conducting in the postoperative period, were divided into 2 groups. During the comparing patients in both groups statistically significant differences by gender, age, severity of the main and concomitant pathology were not detected.

The first control group consisted of 63 patients, who after performing the amputation of the lower extremity at the upper third of the leg, was conducted a complex conservative therapy with the inclusion of antibiotic therapy (selection of antibiotic was carried out by bacteriological studies on sensitivity of microorganisms to antibiotics sown from the exudate of wounds in patients in the preoperative treatment period).

II – the main group consisted of 67 patients, who after amputation at the upper third of the leg, was carried out similar complex conservative therapy with the inclusion of laser LPDT in the regions ofthe amputation stump during surgery and in postoperative period.

LPDT during surgery was performed by using a photosensitizer 0.05% buffer solution of methylene blue, which was moistened the wound surface of the stump of the tibia for 5 minutes, then photosensitizer was washed and the wound surface was lighted by device PDT – "ALT Vostoc" model 03 for 5–7 minutes. PDT in the postoperative period was carried out as follows, subcutaneous area of the amputation stump of the tibia through the set during the operation the perforated microdrainage enter the same photosensibilisator (0.05% buffer solution of methylene blue) with an exposure of 20–30 minutes, and then the cavity is rinsed with physiological solution, for rinsing of a photosensitiser followed by irradiation of the surface area of the amputation stump of the tibia with a wavelength of 600–640 nm with power density of 200 mW/cm^2 for 10–15 minutes. In average, were conducted 3 sessions of PDT.

Results and discussionю Analysis of results of treatment of patients who by reason of DFS were performed in lower limb amputation in the upper third of the tibia showed that the first group of patients in whom the postoperative period was carried out the complex of therapeutic measures with the inclusion of targeted antibiotic therapy, the development of wound infections from the amputation stump was observed in 37.5% of patients. The generalization of wound infection in 17.5% patients caused death. The progression of wounding in amputation stump was observed in 10.0% of patients, what caused the implementation of reamputation lower limb at the hip level.

Second group, which includes 67 patients, which in addition to a comprehensive conservative measures were performed PDT the area of amputation stump of the tibia, the development of wound infection from the stump of the tibia was detected in only 7.0% of patients. In 3.5% of patients developed necrosis of the stump of the tibia, which had forced the surgery re-amputation at the hip level. Mortality outcome in connection with the generalization of wound process in patients of the second group were not observed.

The analysis of the effectiveness of different methods of postoperative management in patients of examined groups showed that it is reasonable in respect to both reduce postoperative wound complications and lethality, and the generalization of wounding process from the amputation stump of the leg in the syndrome of diabetic foot, with the inclusion complex of therapeutic measures during and postoperative period LPDT, which resulted in sharp decrease wound infections at the amputation stump from 37.5% to 7.0%.

Conclusions:

1. The application of PDT is considered a promising development that enhances the success of efforts in the prevention of postoperative wound infections from the amputation stump of the tibia.

2. The method is simple, and it pathogenetically and economically justified, highly effective, which is one of the advantages compared with traditional treatment and does not requires considerable financial and physical effort.

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Khasanova Dilnoza Ahrorovna,
Basic Doctoral Student of the Department of Anatomy, Clinical Anatomy (OSTA) of the Bukhara State Medical Institute (Uzbekistan),
Teshaev Shukhrat Jumaevich,
MD., Professor of the Department of Anatomy, Clinical Anatomy (OSTA) of the Bukhara State Medical Institute
Bukhara, Uzbekistan
E-mail: ss-1961@mail.ru

TOPOGRAFIC-ANATOMICAL FEATURES OF LYMPHOID STRUCTURES OF THE SMALL INTESTINE OF RATS IN NORM AND AGAINST THE BACKROUND OF CHRONIC RADIATION DISEASES

Abstract: The amount of Grouped Lymph Nodes (GLN) in irradiated rats decreases, the number of nodules in them and the size of the GLN increase relatively from the initial part of the small intestine to the final. The shape of the GLN after irradiation varies from oval to round and irregular. The number of single nodules increases. GLN covers an average of 2.1% of the small intestine of irradiated rats, as opposed to a healthy 2.8% of the small intestine. These facts indicate a decrease in the functional activity of intestinal lymphoid tissue after exposure to chronic radiation.

Keywords: small intestine, immune system, grouped lymphoid nodes, nodule form, chronic radiation disease.

Lymphoid cells are an operational subsystem that provides opportunities for tissue variability and adaptation to environmental conditions [5].

Complex carbohydrates participate in different ways in the processes of regulation of immune reactivity and immune tolerance – both indirectly through the intestinal microbiota, and providing a direct immunomodulating effect, which are also able to bind to receptors of intestinal–associated immune tissue [1]. Due to its proximity to the microbiome and direct contact with food, it is constantly exposed to both "normal" and potentially dangerous antigens. From the moment of colonization of the intestine, symbiotic connections between the microflora, epithelium and lymphoid tissue begin to form [6].

As a result of the effects on the body of various adverse environmental factors, the body's defenses weaken and immunity decreases [2]. One such adverse factor is radiation. Affecting the body as a whole and its individual functions, irradiation causes persistent changes in the immune system, blood system, etc. [4]. Ionizing irradiation causes subtle complex mechanisms of disorders in lymphoid organs that require further detailed study for the prediction and possible correction of immunological and biochemical changes [3].

The purpose of the work: to study the quantitative content of lymphoid structures of the rat small intestine (SI) of 8 months of age in the norm and on the background of radiation diseases (RD).

Materials and methods. Studies were conducted on 40 rats, which were kept under normal conditions. Animals were divided into 2 groups: I – control group (n = 20); II – group of animals (n = 20), receiving chronic irradiation for 20 days at a dose of 0.2 Gy (total dose was 4.0 Gy) to 90 days of age. Irradiation of rats produced apparatus "AGAT R1" with power 25.006 sGy / min (Estonia). After 5 months (240 days of age), the rats were GLN slaughtered under ether anesthesia. The SI of rats was separated and opened along the mesenteric margin along the entire length with micro–scissors. We measured the length of the intestine, width in the initial, middle and final part of the intestine. After rinsing with running water and total the drug of the small intestine were stained Harris' hematoxylin. After enlightenment of the drug with 3% acetic acid, the intestine was washed with distilled water and lymphoid structures were studied under the MBS-9 microscope. We calculated the number of GLN, the number of nodes in them, the size of GLN and the size of lymphoid nodes (LN) in them. We calculated the total area of LN and the percentage of the total area of the intestine.

Results and discussion. The length of the SI in the control group (CG) ranged from 94 to 109 cm, on average, 102 ± ± 0.93 cm. The perimeter of the initial division of the mesenteric part of the SI ranges from 0.78 to 0.9 cm, with an average of 0.84 ± 0.01 cm, the perimeter of the middle section of the SI is 0.69 to 0.81 cm, with an average of 0.75 ± 0.01 cm, and

the perimeter of the end of the division ranged from 0.63 cm to 0.75 cm, with an average of 0.69 ± 0.01 cm. The total area of the SI is in the range from 64.9cm^2 to 88.3 cm^2, average of 76.5 ± 1.45 cm^2.

In the CG, the amount of GLN throughout the SI varies from 9 to 17, on average – 13.3 ± 0.50. At a distance of 3.5–6 cm, an average of 4.9 ± 0.15 cm from the pyloric sphincter of the stomach is the first GLN. This GLN basically has a rounded shape. The diameter of the first GLN ranges from 0.2 to 0.5 cm, with an average of 0.38 ± 0.019 cm. The size of this GLN ranged from 0.031 cm^2 to 0.20 cm^2, with an average of 0.11 ± 0.01 cm^2. In the initial part of the mesenteric part of the SI of the CG of animals, the number of lymphoid plaques ranges from 2 to 5, on average – 3.3 ± 0.19. Form of GLN mostly round and oval, single found GLN of irregular shape. The sizes of GLN of the round form had the sizes from 0.4 × × 0.4 cm to 0.6 × 0.6 cm, and the sizes of oval GLN were within from 0.37 × 0.41 to 0.52 × 0.58cm. The distance of interstitial zones ranges from 0.005 cm to 0.01 cm. The nodules in the GLN are mostly round, isolated nodules are oval-shaped. The number of nodules varies from 5 to 9, on average-7.5 ± 0.25. The diameter of the nodules in the GLN is from 0.05 cm to 0.1 cm. The number of lymphoid plaques in the middle part of the mesenteric part of the SI ranges from 3 to 6. GLN mainly had an oval shape, single GLN occurs rounded or irregular shape. The sizes of GLN of the rounded form had the sizes from 0.4 × × 0.4 cm to 0.7 × 0.7cm, and the sizes of oval GLN were in the range from 0.4 × 0.55 to 0.72 × 0.81 cm. The diameters of the nodules in GLN is from 0.05 cm to 0.1 cm. Distance between nodular zones is in the range of 0.005–0.01 cm. In the final department of the mesenteric part of the SI, the number of lymphoid plaques increases slightly, their number ranges from 4 to 8, on average 6.0 ± 0.25. GLN mainly had an oval shape, single round shape GLN occurs. The dimensions of the oval GLN ranged from 0.4 × 0.6 to 0.6 × 0.9 cm. Nodules in the GLN are mainly oval-rounded. The number of nodules in each GLN is in the range of 5–18, on average –11.5 ± 0.8. The total area of the SI of irradiated rats was in the range of from 68.7 to 87.5 cm average 74.8 ± 1.2 cm^2. The number of GLN throughout the SI in the irradiated rats in the range of 8 to 16. The nodules in the GLN are mostly round and irregular, isolated nodules are oval-shaped. The number of nodules varies from 6 to 8, on average – 7.1 ± 0.34. The diameters of the nodules in the GLN is from 0.06 cm to 0.15 cm, on average-0.099 ± 0.002 cm. The number of lymphoid plaques in the middle part of the mesenteric part of the small intestine ranges from 3 to 5, on average –3.8 ± 0.12. GLN were mainly rounded and irregularly shaped, sparsely found GLN oval. Distance between nodular zones is in the range of 0.007–0.01 cm. In the final part of the mesenteric part of the SI, the number of single and irregular lymphoid plaques increases significantly, their number ranges from 5 to 7, on average 6.2 ± 0.12. GLN were mostly of round shape, found a single GLN oval form. The sizes of round GLN were in the range from 0.4 × 0.4 to 0.9 × 0.9 cm, the sizes of oval GLN varies from 0.3 × 0.5cm to 0.5 × 0.7cm. Knots in the GLN of mainly round shape. The number of nodes in each GLN is in the range of 8–22, with an average of 16.25 ± 1.86. The diameters of the nodules in GLN is from 0.98 cm to 1.9 cm, with an average of 1.02 ± 0.122 cm. Distance between nodular zones is in the range of 0.06–0.03 refer to the diameters of isolated nodules from 0.7 × 1.0 cm to 2.0 × 2.5cm.

Conclusions. The amount of GLN in irradiated rats decreases, the number of nodules in them and the size of the GLN increase relatively from the initial part of the SI to the final. The form of GLN after irradiation, in contrast to the control to move from the initial part to the final part of the SI, varies from oval to rounded and irregular. The number of single nodules increases, which was not observed in a healthy group. With services covered in an average of 2.1% of the area of the SI of irradiated rats, in contrast to the healthy (to 2.8%). These facts indicate a decrease in the functional activity of the lymphoid tissue of the intestine after exposure to chronic radiation.

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Khodjaeva Nargiza Bahramovna,
Junior Researcher of the Republican Specialized Scientific and Practical Medical Center of Dermatology and Venereology of the Ministry of Health of the Republic of Uzbekistan
E-mail: evovision@bk.ru

RESEARCH ON POLYMORPHISM OF FIBROBLAST GROWTH FACTOR GENES AND MATRIX METALLOPROTEINAS IN PATIENTS WITH PHOTO AGING

Abstract: In patients with a genetic predisposition, associations of the mutant variants Arg25Pro of the TGFb1 gene, A-8202G of the MMP9 gene and MMP11607G (9.6%), associations of the mutations of the Arg25Pro gene of the TGFb1 gene, and A-8202G of the MMP9 gene (5.8%) are mainly detected, associations of mutations of Arg25Pro genes of TGFb1 and MMP11607G (3.8%), associations of mutations of A-8202G genes of MMP9 and MMP11607G (15.4%) of the examined patients with photo-aging.

Keywords: Gene polymorphism, fibroblasts, photoaging.

Aging of skin is an actual problem of modern dermatology and cosmetology [2]. Photo-aging is a complex of biological processes that cover various layers of the skin [1; 3]. Their clinical effects can occur at any age and the degree of manifestation depends on the total dose received throughout life. The resulting damage to proteins by UV irradiation provoke the formation of cross-links in collagen molecules, inactivation of antioxidant enzymes [4]. Mutations in DNA molecules can lead to carcinogenesis and cell death due to the avalanche-like growth of free radicals and other toxic molecules [3; 5]. Degenerative changes in the dermal intercellular substance are associated with increased activity of metalloproteinases, and the activation of proinflammatory cytokines in keratinocytes contributes to the development of inflammation and tissue damage [3]. Collagen is one of the main building blocks of human skin, providing much for the strength of the skin. Dermal fibroblasts synthesize procollagen, which are converted to collagen. There are two important regulators of collagen production: the transforming growth factor (TGF) -b, which provokes collagen synthesis, and the transcription factor (AP) –1, which inhibits collagen production and regulates collagen breakdown by over-regulating the activity of matrix metalloproteinases (MMPs) [7]. The literature data indicate the multifactorial nature of the pathogenesis of photoaging, and the conducted numerous studies do not cover all the links of disorders associated with the development of this disease.

Objective: to study the Arg25Pro polymorphism of the TGFb1 gene, the A-8202G polymorphism of the MMP9 gene, and the MMP11607G polymorphism in patients with photo-aging of the Uzbek nationality.

Material and research methods. 107 patients (19 men and 88 women) with photo-aging of skin of various types and 38 (8 men and 30 women) of practically healthy people aged from 21 to 68 years old were under observation at the inpatient and outpatient treatment in the clinic of RSNPMTSDiV MH RUz. The study included patients with the first, the second and the third type of photosensitivity. All patients received anamnesis on admission, identified provoking factors, evaluated the skin condition, conducted general clinical hematological and biochemical studies. Studies of the Arg25Pro polymorphism of the TGFb1 gene, the A-8202G polymorphism of the MMP9 gene and the MMP11607G polymorphism were carried out in the laboratory of the Department of Molecular Medicine and Cell Technologies of the Research Institute of Hematology and Blood Transfusion under the guidance of Dr. med. Professor Babayev KT mutations (polymorphism) in the human genome were detected using the SNP-express system.

Results and its discussion. Anamnesis collection revealed only the presence of hereditary predisposition in only 30.7% of the examined patients. The main provoking factors were prolonged exposure to the sun (66%), 25.5% of patients could not indicate any factor, in 8.4% of patients the provocative factor was the administration of oral contraceptives. Photo-aging was more frequently observed in patients with type 2 skin (47.6%), and mainly the lesions were located symmetrically on the face. It should be said that the clinical manifestations in patients with photo-aging depended on skin type. So, the SPF-factor was mainly characteristic of FS1 (40%), FS2 (31.4%) and FS3 (51.8%); epidermal formations in the form of freckles, telangiectasia, seborrheic and actinic keratosis; Dermal lesions in the form of wrinkles, cross-striation, a violation of the general skin tone, skin roughness, atrophy and a million were also characteristic of the above-mentioned skin types.

As noted earlier, the regulators of collagen metabolism are: TGF-b, which induces collagen synthesis, and collagen regulating collagen MMPs. In this regard, we have studied the genes of these regulators. A study of the possible association of allelic and genotypic variants of the Arg25Pro polymorphism

of the TGFb1 gene with the development of photoaging showed a decrease in the frequency of arginine alleles by 1.45 times and an increase in the proline allele by 4.1 times relative to the frequencies of the above-mentioned alleles in healthy individuals (Table 1). A significant increase in the frequency of the proline allele indicates the protective effect of this allele in the development of photoaging. The frequency of the Arg ;/ ;Arg, Arg/Pro and Pro/Pro genotypes was calculated according to the odds ratio. In the population group, we did not reveal the presence of the Pro/Pro mutant genotype, whereas in patients with photo-aging, its frequency increased to 23.1%. At the same time, there was a significant decrease in the detection rate of the homozygous form of Arg/Arg by 1.7 times and an increase in the heterozygous (Arg/Pro) form by 1.56 times, i.e. with the presence of the heterozygous form, the risk of photo aging increases by 1.56 times, and with the carriage of the mutant Pro/Pro genotype TGFb1 – by 23.1 times, and such differences were statistically significant.

Table 1. – The frequency distribution of alleles and genotypes of the Arg25Pro polymorphism of the TGFb1 gene in groups of patients and controls

No.	Group	n	Allele frequency				Genotype distribution frequency					
			Arg		Pro		Arg/Arg		Arg/Pro		Pro/Pro	
			n	%	n	%	n	%	n	%	n	%
1.	Core group	52	65	62.5	39	37.5	25	48.1	15	28.8	12	23.1
2.	Control group	38	69	90.8	7	9.2	31	81.6	7	18.4	0	0

$\chi^2 = 0.1$; P = 0.7; OR = 1.1; 95%CI 0.7099–1.611

Thus, a significant association was found between the "unfavorable" genotypic variant of Arg/Pro and, especially, the Pro/Pro allele of the Arg25Pro polymorphism of the TGFb1 gene and the development of photoaging. Dermal fibroblasts synthesize procollagen, which are converted to collagen. There are two important regulators of collagen production: TGF-b and protein activator (AP) –1. TGF-b is a cytokine that stimulates collagen synthesis. AP-1 is a transcription factor inhibiting collagen production. TGF-b targets are also diverse cells, since the expression of its high-affinity receptor is widespread. The effect of TGF-b on the immune system is dominated by inhibitory effects, it enhances the synthesis of extracellular matrix proteins, promotes wound healing, and has an anabolic effect. Turning off the TGF-b gene leads to the development of a fatal generalized inflammatory pathology and impaired formation of mature collagen, and, as a result, the clinical manifestations of photoaging.

Normally, there is a balance of collagen due to the regulation of its synthesis and decomposition under the action of matrix metalloproteinases (MMP-9 and MMP-1). In this regard, we further studied the A-8202G polymorphism of the MMP9 gene. A comparative analysis of the frequency distribution of alleles and genotypes of the A-8202G polymorphism of the MMP9 gene in a group of patients with photoaging and the total population sample revealed statistically significant differences (table 2). The frequency of occurrence of the A and G alleles was 37.5 and 62.5% in patients with photo-aging, 60.5 and 39.5% in the control group. As can be seen, a significant decrease in the frequency of allele A was revealed in the group of patients by 1.61 times, an increase in the frequency of allele G by 1.58 times compared with the control group. In patients with photo-aging, the frequency of A/A, A/G and G/G genotypes differed significantly from the population sample. We found a significant decrease in the frequency of occurrence of the AA allele 2.13 times, and an increase in the mutant G/G allele 2.66 times. These data indicate the association of this polymorphism with the development of photoaging.

Table 2. – The frequency distribution of alleles and genotypes of the A-8202G polymorphism of the MMP9 gene in groups of patients and controls

No.	Group	n	Allele frequency				Genotype distribution frequency					
			A		G		A/A		A/G		G/G	
			n	%	n	%	n	%	n	%	n	%
1.	Core group	52	39	37.5	65	62.5	9	17.3	21	40.4	22	42.3
2.	Control group	38	46	60.5	30	39.5	14	36.8	18	47.3	6	15.9

$\chi^2 = 0.1$; P = 0.8; OR = 1.1; 95%CI 0.423–3.039

Thus, a significant association was revealed between the "unfavorable" genotypic variant G/G of the A-8202G polymorphism of the MMP9 gene and the development of photoaging. MMP-9 is secreted as a zymogen, its substrates are

denatured type I collagen and native collagens. It takes part in the processes of inflammation, tissue remodeling and repair, mobilization of matrix-bound growth factors and cytokine processing [7]. Consequently, mutations in its gene can lead to disruption of the metabolism of collagen and the formation of skin aging, especially under the influence of ultraviolet rays.

However, MMP-1 also plays an important role in the regulation of collagen metabolism. When comparing the frequencies of alleles and genotypes of the MMP11607G polymorphism between the general group of patients with photo-aging and the population sample, statistically significant differences were also found (table 3).

Table 3. – The frequency distribution of alleles and genotypes of polymorphism MMP11607G in groups of patients and control

No.	Group	n	Allele frequency				Genotype distribution frequency					
			M		G		M/M		M/G		G/G	
			n	%	n	%	N	%	n	%	n	%
1.	Core group	52	50	48.1	54	51.9	18	34.6	14	26.9	20	38.5
2.	Control group	38	49	64.5	27	35.5	19	50.0	11	28.9	8	21.1

$\chi^2 = 0.1$; $P = 0.7$; $OR = 1.1$; 95%CI 0.4798, 2.602

The frequency of occurrence of the M and G alleles was 48.1 and 51.9% in the main group of patients and 64.5 and 35.5% in the control group. As can be seen, a significant increase in the frequency of the G allele in the group of patients was detected 1.46 times as compared with the control group. We found that the risk of photo-aging increased by 1.82 times with the carriage of the mutant G/G genotype, and this difference was statistically significant.

Thus, a significant association has been revealed between the "unfavorable" genotypic variant of the G/G allele of the MMP11607G polymorphism and the development of photo-aging. It should be said that MMP-1 is synthesized by fibroblasts, chondrocytes, keratinocytes, macrophages, endothelial cells, osteoblasts, and is involved in the degradation of collagen filaments in the remodeling of the extracellular matrix. In this regard, it can be assumed that the presence of mutations in the gene of this protein may contribute to photo-aging of the skin.

It was of interest to study the association of Arg25Pro gene mutations of the TGFb1 gene, A-8202G of the MMP9 gene and MMP11607G gene in patients with photo-aging. The analysis showed the presence of the association of all three genes in 5 of 52 (9.6%) of the examined patients, the association of mutations of the Arg25Pro gene of the TGFb1 gene and the A-8202G of the MMP9 gene – in 3(5.8%) patients, the association of mutations of the Arg25Pro genes TGFb1 and MMP11607G – in 2(3.8%) patients, mutation associations of the A-8202G genes of the MMP9 and MMP11607G – in 8(15.4%) of the examined. It should be said that such associations of mutations in the genes were mainly observed in patients with hereditary predisposition, severe course of pathology.

Thus, a significant association has been revealed between the "unfavorable" genotypic variant of the genes listed above and the development of photo-aging, this is especially pronounced in patients with hereditary predisposition. In our opinion, the identification of a functionally unfavorable genetic marker in patients with photo-aging allows us to predict the risk of early aging of the skin and determine the further tactics of therapeutic and preventive measures. Summarizing the above, we can say that UV irradiation leads to the generation of ROS and the induction of AP-1 [12], which cause the production of MMPs with consistently increasing collagen decay, and also leads to a decrease in TGF-b and, as a result, slowing down the production of collagen, which together are the main mechanism of skin photoaging. Repeated UV damage throughout life leads to the development of a visible "sun scar", showing a visible wrinkle. In addition, under the influence of ultraviolet ray disrupted the process of maturation of keratinocytes, the appearance of atypical keratinocytes, manifested by dryness and peeling of the skin – xerosis. Ultraviolet damage to Langerhans cells, which are located mainly in the spinous layer of the epidermis, which have an antigen-presenting function and carry out immune surveillance, leads to a violation of the mechanisms of immunological protection of the skin. In addition, dark-pigmented subjects cause less collagen breakdown and less DNA damage than light-pigmented subjects [3; 6].

Analysis of the assessment of the functional significance of the polymorphism of the Arg25Pro genes of the TGFb1 gene, A-8202G of the MMP9 gene, and MMP11607G gene in patients with photo-aging made it possible to draw the following conclusions:

1. A statistically significant difference was found between patients with photo-aging and healthy donors in the frequencies of allelic variants of the Arg25Pro polymorphism of the TGFb1 gene, manifested by a high relative risk of skin photoaging and genotypic heterozygous Arg/Pro and mutant Pro /Pro variants.

2. A significant association was revealed between the "unfavorable" genotypic variant G/G of the A-8202G polymorphism of the MMP9 gene, the G/G allele of the MMP11607G polymorphism, and the development of photoaging.

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Akilov Farkhad Ataullaevich,
Republican Specialized Center of Urology,
doctor of sciences in medicine, professor,
Tashkent, Uzbekistan
E-mail: nepster1984@inbox.ru

Bakhadirkhanov Mukhammadzarif Mekhammadkabirhanovich,
urology, Republican Specialized Center of Urology,
Tashkent, Uzbekistan
E-mail: Zarif-urologyuz@mail.ru

Mirkhamidov Djalal Khalilovich,
doctor of sciences in medicine, Faculty of Treatment
Tashkent Medical Academy
E-mail: azamat.mirkhamidov@tma.uz

Khudaybergenov Ulugbek Ataullaevich,
doctor of sciences in medicine, Faculty of Treatment
Tashkent Medical Academy
E-mail: azamat.mirkhamidov@tma.uz

Kasimov Safojon Samukdjanovich,
assistant lecturer, Faculty of Treatment
Tashkent Medical Academy
E-mail: kasimovsafojon@gmail.com

FACTORS INFLUENCING THE CHOICE OF A METHOD FOR TREATING PATIENTS WITH URETHRAL STRICTURE

Abstract: The aim of our study was to determine the factors affecting to the choice of treatment of patients with urethral stricture.

We conducted a retrospective analysis of case histories of 109 patients with urethral stricture, which were carried out various kinds of operations on the urethra. 53 patients underwent endoscopic recanalization of the urethra under fluoroscopic guidance, followed by transurethral resection of the stricture zone, 23 – transurethral internal optical urethrotomy, 33 – different types of urethroplasty.

The results showed that the main factors influencing to the choice of treatment of patients with urethral stricture are the patient's age, presence of concomitant diseases, the degree of anesthetic risk surgery, localization and extent of the stricture.

Keywords: urethral stricture, endoscopic recanalization of the urethra, transurethral resection, transurethral internal optical urethrotomy, urethroplasty.

Introduction. The problem of treatment of urethral stricture remains one of the most difficult in urology, as evidenced by a high percentage of complications and relapses that require repeated repeated operations. Until recently, the main methods of treating patients with urethral stricture were complex reconstructive and plastic surgery, unsatisfactory results of which were observed in more than 25% of patients [1; 2].

In connection with the development and introduction of new technologies, the arsenal of low-traumatic interventions in the treatment of such complex pathology has significantly expanded. It is known that the choice of the national treatment tactics for patients with urethral stricture depends on the quality and completeness of preoperative diagnostics [3; 4; 5].

One of the main factors influencing the choice of the method of treatment [6] and in many respects the forecast of urethral stricture, incl. recurrent, is a preoperative assessment of changes in the urethra and periurethral tissues [7; 8], as well as the exact establishment of stricture characteristics [9].

If correctly selected patients for treatment, based on the results of the diagnostic method used, it is possible to achieve a reduction in the frequency of recurrences of the urethra, including. significant [10].

The purpose of the work-to determine the factors influencing the choice of the method of treatment of patients with urethral stricture.

Material and methods

The basis of this study was the results of the examination and treatment of 303 patients with urethral stricture who turned to the "Republican Specialized Urology Center" in the period from 2011 to 2014. The age of patients ranged from 16 to 83 years (an average of 43.6 ± 18.7 years). When referring to a clinic of 303 patients, 195 (64.4%) had suprapubic cystostomy drainage, which was previously established due to the inability to self-urinate, in 108 (35.6%) patients the maximum volume flow rate of urine was reduced to an average 4.3 ml / s (range from 1.0 to 12.0).

Depending on the purpose of the study, the patients were divided into 3 treatment groups:

The first group – 53 patients who had endoscopic recanalization of the urethra under X-ray control;

The second group – 23 men who underwent transurethral internal optical urethrotomy;

The third group – 33 patients who underwent various types of urethroplasty.

To determine the factor that influenced the choice of the treatment method, the frequency of performed types of surgical interventions was compared in terms of the following parameters: the age of the patient, the presence of concomitant diseases, the degree of anesthesia risk of surgery, the localization of the stricture, and the extent of the urethral stricture.

The patients were divided into groups by age according to the report form No. 7 of the Health Ministry of the Ministry of Health of the Republic of Uzbekistan and the International Classification of Diseases – 10 (ICD-10).

The anesthetic risk of interventions was determined by the classification of the patient's objective status assessment, adopted by the American Society of Anesthesiologists (ASA).

The statistical processing of the material was carried out using the program MS Office Excel 2007, StatSoft Statistica 8.0 using the Student-Fisher criteria.

Results

Analysis of the frequency of surgical interventions performed, depending on the age of the patients, showed that young people most often performed urethroplasty (in 75.7% of cases), whereas recanalization was performed in half of the group of patients (47.2%), and TU urethrotomy – in 39.1% of patients. In elderly people, recanalization of the urethra was most often performed (in 22.6% of cases), and urethroplasty was performed in only 6.1% of patients (Table 1).

Table 1.– The frequency of surgical intervention, depending on the age of the patients (n = 109)

Age	Types of surgical intervention		
	Recanalization n (%)	TU Optical urethrotomy n (%)	Urethroplastic surgery n (%)
15–44 year	25(47.2%)	9(39.1%)	25(75.7%)
45–64 year	16(30.2%)	10(43.5%)	6(18.2%)
65 year and older	12(22.6%)	4(17.4%)	2(6.1%)
All	53(100%)	23(100%)	33(100%)

The results of the analysis of the frequency of performed surgical interventions, depending on the presence of concomitant diseases, revealed that concomitant diseases were much less frequent in the group of patients who underwent urethra plastic surgery than in the other two groups (Table 2).

Table 2.– The frequency of surgical intervention, depending on the presence of comorbidities (n = 109)

Comorbidities	Types of surgical intervention		
	Recanalization (n = 53)	TU Optical urethrotomy (n = 23)	Urethroplastic surgery (n = 33)
IHD	20	4	3
DM	2	4	3
IHD+DM	3	1	–
IHD+Anemia	1	–	–
Anemia	–	1	–
CHRF	–	1	–
All	26(49.1%)	11(47.2%)	6(18.2%)

The results of the analysis of the frequency of the performed surgical interventions, depending on the degree of anesthetic risk of the operative intervention, showed that in the group of patients who underwent urethra plastic surgery,

the risk of surgical intervention on the classification of the patient's objective status assessment, accepted by the American Society of Anesthesiologists, was mainly I and II degrees, then as a recanalization of the urethra and TU optical urethrotomy was performed in patients with both III and IV degrees of risk surgery (Table 3).

Table 3.– The frequency of surgical intervention, depending on the degree of anesthetic risk surgery (n = 109)

ASA grade	Types of surgical intervention		
	Recanalization n (%)	TU Optical urethrotomy n (%)	Urethroplastic surgery n (%)
I	13(24.5%)	9(39.1%)	10(30.3%)
II	21(39.6%)	6(26.2%)	19(57.6%)
III	18(34.0%)	7(30.4%)	4(12.1%)
IV	1(1.9%)	1(4.3%)	–
All	53(100%)	23(100%)	33 (100%)

Analysis of the frequency of performed surgical interventions depending on the localization of urethral stricture revealed that the recanalization of the urethra was most often performed in patients with urethral stricture located in the neck of the bladder (in 50.9% of cases), and urethroplasty and TU optical urethrotomy to patients with stricture, located in the bulbar part of the urethra, respectively, in 75.8% and 91.3% of cases (Table 4).

Table 4.– The frequency of performed surgical interventions depending on the localization of urethral stricture (n = 109)

Localization of urethral stricture	Types of surgical intervention		
	Recanalization (n=53)	TU Optical urethrotomy (n =23)	Urethroplastic surgery (n=33)
Membranous section	6(11.4%)	-	3(9.1%)
bulbar section	8(15.1%)	21(91.3%)	25(75.8%)
Front suspension	8(15.1%)	2(8.7%)	4(12.1%)
Bladder neck	27(50.9%)	–	–
more than one location	4(7.5%)	–	1(3.0%)
All	53(100%)	23(100%)	33(100%)

The length of stricture in patients of the 1 st group was 0.4–2.3 cm (average 1.0 ± 0.3), in the 2nd group 0.4–1.8 cm (mean 0.7 ± 0.2) and in the third – 0.5–3.5 cm (an average of 1.1 ± 0.3). A comparative analysis of the extent of stricture between the groups showed no statistically significant differences in the length of the stricture (p> 0.05).

Table 5.–The frequency of surgical intervention, depending on the length of urethral stricture (n = 109)

length of stricture (cm)	Types of surgical intervention		
	Recanalization (n=53)	TU Optical urethrotomy (n =23)	Urethroplastic surgery (n=33)
till 0.5 см	8(15.1%)	10(43.5%)	2(6.1%)
from 0.6 till 1.0 см	38(71.7%)	11(47.8%)	20(60.6%)
over 1.0 см	7(13.2%)	2(8.7%)	11(33.3%)
All	53(100%)	23(100%)	33(100%)

The results of analysis of the frequency of performed surgical interventions, depending on the extent of stricture, showed that patients with more extensive urethral stricture performed urethroplasty most often, while patients with less extensive stricture performed TU optical urethrotomy. Recanalization of the urethra was most often performed in patients with a stricture length of 0.5–1.0 cm (Table 5).

The conclusion

The results of the study showed that the main factors influencing the choice of the method of treatment for

patients with urethral stricture are the patient's age, the presence of concomitant diseases, the degree of anesthesia risk of surgical intervention, the localization and extent of stricture.

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Akilov Farkhad Ataullaevich,
doctor of sciences in medicine, professor,
Republican Specialized Center of Urology,
Tashkent, Uzbekistan
E-mail: nepster1984@inbox.ru

Bakhadirkhanov Mukhammadzarif Mekhammadkabirhanovich,
Republican Specialized Center of Urology,
urology, Tashkent, Uzbekistan
E-mail: Zarif-urologyuz @mail.ru

Mirkhamidov Djalal Khalilovich,
doctor of sciences in medicine, Faculty of Treatment
Tashkent Medical Academy
E-mail: azamat.mirkhamidov@tma.uz

Khudaybergenov Ulugbek Ataullaevich,
doctor of sciences in medicine, Faculty of Treatment
Tashkent Medical Academy,
E-mail: azamat.mirkhamidov@tma.uz

Kasimov Safojon Samukdjanovich,
Tashkent Medical Academy,
assistant lecturer, Faculty of Treatment
E-mail: kasimovsafojon@gmail.com

ASSESSMENT OF THE SPECIFIC CHARACTERISTICS OF URETHRAL STRICTURE ACCORDING TO RECORDS OF MEDICAL REPUBLICAN INSTITUTION OF UZBEKISTAN

Abstract: Strictures of the urethra in men are a widespread pathology that adversely affects the health and, consequently, the quality of life of the patient. The purpose of the study was to assess the nature of the strictures of various departments of the urethra and the frequency of their occurrence in the territory of the Republic of Uzbekistan.

The survey data of 195 men (average age – 40.6 ± 13.1 years) who underwent urethroplasty at the Republican Specialized Urology Center JSC from February 2013 to March 2015 were studied. In 46.7% of patients, the strictures were located in the anterior part of the urethra, 53.3% – in the back. The most frequent possible causes of strictures were trauma (38.5%) and infection (22.6%), in 18% of cases the strictures were considered idiopathic, in 19% – iatrogenic. In 13.3% of observations, the strictures were located in the hanging urethra, in 42.7% – in the bulbar, in 32% – in the back. Strictures 28.7% of patients had a length of more than 6 cm, 25.6% – 2 cm or less.

Keywords: urethral strictures, epidemiology, Republic of Uzbekistan, urinary trauma, stricture male urethra.

Introduction. Being one of the most "ancient" and most complex urological diseases [1], stricture disease of the male urethra (Male urethral stricture disease – MUSD) negatively affects the quality of life of patients. Their treatment requires large material expenditures that are essential for the budget of the health care system in developed countries [2]. In the USA, the incidence rate of MUSD exceeds 0.6% and is the cause of more than 5.000 hospitalizations per year [3]. The annual costs of managing patients with MUSD, with the exception of expenses for medicines, in 2000 amounted to almost $200 million [3]. Among other expenses, the cost of follow-up of one patient during the first year after undergoing reconstructive intervention on the anterior or posterior urethra ranged from $205 to $1.784 USA [4]. According to the generally accepted classification, "front" and "rear" strictures are distinguished by the MUSD. The results of most studies in various countries around the world indicate the presence of significant differences in the etiology, pathogenesis of the disease, the technique of surgical approaches used in treatment, evaluation of its results and outcomes [5–9].

The main causes of urethral strictures in developing countries include post-traumatic damage to the urethra in pelvic fractures that cause the occurrence of a defect [10–12]. In developed countries, stricture of the urethra is most often (up to 45%) a consequence of iatrogenic and is localized mainly in the bulbar section [6; 7; 13–15]. The treatment tactics for strictures of the urethra is different in different countries and even in geographic areas and regions of the same country [16].

For a better understanding of the characteristics and causes, as well as the prevalence of the disease in the Republic of Uzbekistan, the assessment of various characteristics of urethral strictures was performed within one specialized clinic.

Material and methods

A retrospective analysis of the results of examination and treatment of men who underwent surgery in the urethra at the Republican Specialized Urology Center (Tashkent, Uzbekistan) was carried out. The study was approved by the Expert Council of the institution. Were collected and summarized data about patients who underwent urethroplasty in the anterior and posterior parts of the urethra. Patients with a history of diseases caused by sclerosing lichen, urethral strictures, undergone surgery for hypospadias, and those who underwent palliative procedures, as well as with insufficient and / or unreliable data in clinical records were excluded from the study.

The demographic characteristics of the patients, the history, physical examinations, routine clinical studies and laboratory tests, data on previous surgical interventions, concomitant diseases and/or complicating factors such as diabetes mellitus, excessive body weight and bad habits. In addition, the results of combined mica and restorative urethrocystography, uroflowmetry, data on the volume of residual urine and the microbiological analysis of urine are taken into account.

Depending on the location of the strictures, the patients were divided into two large groups: with the strictures of the anterior and posterior urethra. In the future, these groups were divided into 6 subgroups: the strictures of the external opening of the urethra, the hanging, bulbar, posterior parts of the urethra, the areas of the bladder neck and the panuretral (extended strictures with the capture of several sections).

The length of strictures was measured with urethrography and intraoperatively.

In accordance with the data on the estimated etiology of strictures obtained during the analysis of the history of the disease, congenital, idopathic, catheter-associated, associated with instrumental manipulations (for example, urethroscopy), post-traumatic, infectious, iatrogenic and chemical (associated with instillation of the urethra by any chemical agents (mi) strictures. Strictures were considered idiopathic in the absence of objective factors capable of causing a narrowing of the lumen of the urethra.

In describing the demographic characteristics of patients, routine descriptive statistics tools were used: mean (M), median Me), standard deviation (SD), percentiles, interquartile range and standard error of the mean. Frequencies are indicated in percent and absolute numbers. The non-parametric Mann – Whitney U-test was used to assess intergroup differences. The difference was considered statistically significant at $p < 0.05$.

Results. In total, from February 2013 to March 2015, 14.454 urological interventions were performed in the surgical department of the RSCU [17], of which 485(3.7%) were about MUSD. 290(59.8%) patients were excluded from the study for the reasons stated above. Of the selected 195(40.2%) patients, 55(28.2%) were urban residents, 140 (71.8%) lived in rural areas of the Republic of Uzbekistan.

The patients' age ranged from 8 years to 81 years (average age – 40.6 + 13.1 years), of which 1(0.5%) patient was younger than 11 years old, 3(1.5%) – from the age 12 to 17 years old, 139(71.2%) – from 18 to 49.51(26.2%) – from 50 to 69, and 1(0.5%) – over 70 years old. The average value of UTI was 26.1 ± 5.1, with 6(3.1%) patients who were underweight, 78(40%) had normal body weight, 78(40%) were overweight, 24(12, 3%) – obesity grade I, 6(3.1%) – obesity grade II and 3(1.5%) – obesity grade III. Eight (4.1%) patients suffered from diabetes, 93(47.7%) were active smokers, 3(1.5%) quit smoking and 99(50.8%) never smoked. In 91(46.7%) patients, the strictures were located in the anterior part of the urethra, in 104(53.3%) – in the posterior urethra (Table 1).

Table 1.– The distribution of patients depending on the location of strictures of the urethra

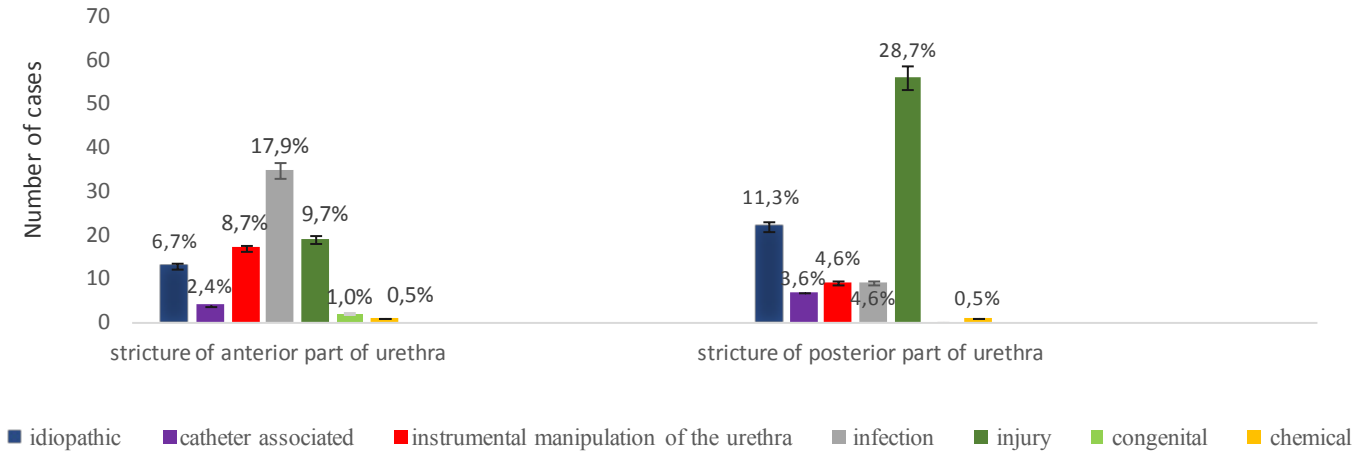
Stricture localization	amount	
	n	%
Meatus	1	0.5
Hanging section	49	25.1
bulbar section	57	29.2
Rear section	44	22.6
Bladder neck	3	1.5
Panurethral (extended) strictures	41	21.0

The most frequent possible causes of strictures were trauma (38%) and infection (22.6%) (tab. 2), with the posterior stricture more often as a consequence of the trauma suffered ($p < 0.05$), and the anterior one – as a consequence of the infectious process (urethritis; $p < 0.05$) (Table 2, figure). In relation to 18% of patients, it was not possible to establish the cause of strictures, therefore the disease was considered idiopathic.

Table 2.– Possible causes of strictures

Cause of strictures	amount	
	n	%
Injury	75	38.5
Infection	44	22.6
Idiopathic	35	17.9
Instrumental manipulation of the urethra	26	13.3
Catheterization	11	5.6
Congenital	2	1.0
Chemical exposure	2	1.0

The types of injuries were different (Table 3). Most often (48%) patient history showed injuries associated with the production, received in the workplace. Somewhat less (24%) injuries resulting from accidents.



Limits of error lines represented 95% confidence intervals.

Figure 1. The frequence of causes of urethralstrictures, depending on localization

Table 3.– Types of injuries that caused the occurrence of strictures of the urethra

Type of injury	Hanging section	Bulbar section	Rear section	Bladder neck	Panuretral	Total (%)
Accident	2	14	–	1	1	18(24.0)
Bicycle riding	1	2	–	–	–	3(4.0)
Work injury	4	10	16	1	5	36(48.0
Agricultural	–	–	1	–	–	1(1.3)
A fall	–	4	5	–	–	9(12.0)
Fight	3	2	2	–	1	8(10.7)
Total	10	32	24	2	7	75(100.0)

Of the 75 post-traumatic strictures, 10(13.3%) were located in the hanging section of the urethra, 32(42.7%) – in the bulbar, and 24(32%) – in the posterior.

As for the length of strictures, the strictures of more than 6 cm (panuretral), most often found in 56 (28.7%) patients, were most often encountered. The second (25.6%) place in frequency was occupied by short strictures up to 2 cm long (Table 4).

Table 4.– The distribution of strictures, depending on their length

Stricture Length	amount	
	n	%
< 2 см	50	25.6
2–3 см	30	15.4
3–4 см	15	7.7
4–5 см	25	12.8
5–6 см	19	9.7
Panuretral (> 6 cm)	56	28.7

Table 5.– Interventions for strictures of the urethra, transferred by patients before contacting the "RSCU"

Interventions	amount	
	n	%
Ureterodilatation	64	32.8
Urethrotomy	14	7.2
Urethroplastic	29	14.9
Combined	12	6.2
Metatomy	3	1.5
Cystostomy	46	23.6
TUR stricture of urethra	2	1.0
TURP	3	1.5
Was not	22	11.3
Total	195	100.0

173 (88.7%) patients were subjected to various interventions for strictures of the urethra prior to contacting the RSCU (Table 5).

The conclusion. In this study, the frequency of occurrence of MUSD in Uzbekistan was analyzed for the first time. Our analysis of 195 observations of the MUSD revealed some peculiarities of its etiology in our region, which confirms the opinion of many authors that the character of the MUSD is not the same in all countries. There is also an opinion that the epidemiology of the BSU is reflecting the development of the region. From the results of a study conducted by Italian specialists, it is concluded that there is a relationship between the prevalence of damage to the urethra and the economic condition and, consequently, the lifestyle of the respondents, i.e. with the improvement of living conditions, the risk of injuries and the development of post-traumatic urethral strictures is reduced [18].

The results of our study demonstrated the similarity of characteristics of the MUSD in Uzbekistan with those typical of both developed and developing countries, which may reflect the economic and social status of our country. Uzbekistan is one of the 26 rapidly developing countries, and it may be advisable to conduct a large-scale epidemiological study of the incidence and morbidity rates of MUSD, taking into account the economic development of the country as a whole and its regions in particular.

In developing countries, children and adolescents are often susceptible to injuries of the pelvic organs, resulting in the formation of defects that require complex surgical correction with subsequent long-term negative urological, andrological and psychological consequences [19–21]. In Uzbekistan, on the contrary, these groups are rarely exposed to such injuries, which is apparently due to the fact that cycling and motorcycles are not so popular among young people, which may partially protect young people from road accidents and their consequences [18].

As in any developing country, in Uzbekistan, the most common cause of the development of strictures of the anterior and posterior urethra was trauma, and only 4% of them were caused by trauma due to cycling and 10.7% were obtained as a result of street fights. In the majority (48%) of cases, the post-traumatic strictures were the result of industrial injuries, which was significantly higher than in developed countries [6].

In developed countries, almost all cases of MUSD were acquired and the largest (45%), their part was iatrogenic and arose as a result of urological manipulations (traumatic catheterization, transurethral interventions, correction of hypospadias, prostatectomy, brachytherapy, etc.) [7].

As a rule, iatrogenic urethral injuries result from improper or prolonged catheterization of the urethra. their share can reach 32%, and the bulbar part of the urethra is predominantly affected [6; 13]. There is evidence of the development of urethral strictures after prostate resection (TURP) (up to 3.8%) and trans-urethral incision of the prostate (4.1%) [14; 15].

Another interesting result of our observations is the following: as a result of urological interventions, among men over 50 years of age in Uzbekistan were less common than in developed countries, where this group of the population undergoes endosurgical urological procedures (TURP or similar) more often, than in Uzbekistan, in urological clinics of which the use of this methodology in the treatment of benign prostatic hyperplasia is only gaining popularity [7; 9].

As for the procedures transferred by the patients included in this study, it turned out that most often it was a periodic bougienage of the urethra. At the same time, in 23.6% of cases, patients were hospitalized and subjected to emergency suprapubic cystostomy due to the development of acute urinary retention.

It can be assumed that the importance of diagnostics and treatment of MUSD in Uzbekistan was often underestimated not only by patients but also by doctors, which means that the examination and treatment were not carried out carefully enough. Perhaps that is why in most patients the disease has progressed until the obliteration of the lumen of the urethra. In 22.6% of the patients, postinfectious urethral strictures, resulting from acute acute urethritis, were revealed, which may also suggest that the initial disease of this category of patients was also underestimated and not completely eliminated, which ultimately led to protracted course and chronicity. The findings point to the need to disseminate recommendations for the diagnosis and treatment of urological diseases and the importance of the educational role of the Scientific Society of the Republic of Uzbekistan. The results of our study can serve as an incentive for the further implementation of international standards in the practice of routine management of patients with MUSD.

Limitations of the study. Despite the fact that the study included groups of patients who received treatment in a specialized center of the republican scale, according to its results, it is still impossible to judge the actual spread of the MUSD in Uzbekistan, since it did not cover the republic as a whole. In addition, patients with sclerosing lichen and hypospadias were not included in the study, as they usually receive treatment in oncological or pediatric clinics, respectively.

In order to avoid possible errors related to the different level of experience of the surgeons, we evaluated the data of the results of the interventions of one surgeon, who is highly qualified in conducting "open" surgical interventions on the urethra. Also in this publication, we did not refer to the results of urethroplasty performed for patients included in the study, since the long-term results of open plastic interventions on the urethra are recommended to be evaluated in terms of 36 months. up to 5 years [22; 23].

Conclusion The MUSD in Uzbekistan has specific characteristics similar to both developing and developed coun-

tries. In our country there are all conditions for activities to improve the diagnosis, treatment and observation of patients with strictures of the urethra of various origins, adequate to the modern capabilities of the urological service.

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Sherbekov Ulugbek Axrorovich,
candidate of medical sciences,
Head of the Department of General Surgery,
Samarkand Medical Institute of the Republic of Uzbekistan
E-mail: uasherbekov@gmail.ru

Murtazaev Zafar Israfulovich,
candidate of medical sciences,
associate professor of the Department of General Surgery,
Samarkand Medical Institute of the Republic of Uzbekistan
E-mail: zafar.murtazaev1959@mail.ru

Rustamov Murodulla Isomiddinovich,
candidate of medical sciences,
assistant Department of General Surgery,
Samarkand Medical Institute of the Republic of Uzbekistan
E-mail: rustamov.1967@bk.ru

Saydullaev Zayniddin Yakhshiboevich,
assistant Department of General Surgery,
Samarkand Medical Institute of the Republic of Uzbekistan
E-mail: zizu_medic86@bk.ru

SURGICAL TACTICS IN LIVER ECHINOCOCCOSIS OF SUBPHRENIC LOCALIZATION

Abstract: In the clinic of general surgery SamMI performed 125 surgeries for echinococcosis of the liver subphrenic localizatipn. Thoraco-abdominal access wos used in 31, parallel to the costal arch in 23 and 64 patients with a wide ancient laparotomic access. In the 7 patients with localization of cysts in the segment of the liver, a minidostine developed in our clinic was producted along the lower edge of the xirib along the posterior axillary line. Mostly used 4 types of operations, cyst extirpation (pericystectomy), closed echinococcectomy, semi-closed, echinococctomy, Askerhanov.

In the postoperative period, all patients were prescribed albendazole at 12 ml kg of body weight for 28 days of the 35 the corse with an interval of 14 days.After surgical complications were observed in 8 (6.4%).

Keywords: echinococcosis, thoracic-abdominal access, cyst extrusion, pericystectomy, omentoplasty.

Introduction. Subphrenic liver echinococcosis is the most difficult for diagnosis and treatment. The cyst located on the convex surface of the liver is difficult to observe, which leads to difficulties during the operation [1; 3; 4; 6; 8; 9]. The only radical method of treatment of echinococcosis, including subphrenic liver echinococcosis, is the surgical method. The difficulty of surgical treatment of this localization of echinococcal cysts is due to complexity of the topographic and anatomical location, as well as more frequent complicated forms compared to other localization of parasitic liver cysts [2; 5; 7; 10].

Materials and methods. For the last years 125 operative interventions of subphrenic liver echinococcosis were performed in the department of general surgery of Samarkand Medical Institute Clinic № 1. The age of patients ranged from 16 to 70 years. The largest number of patients suffering from this pathology was at the age group from 18 to 54 years old. A combination of subphrenic liver echinococcosis with echinococcosis of the abdominal cavity was observed in 12 patients, which was 9.6%. Complicated forms of echinococcosis of this localization were noted in 29 patients, which accounted for 23.2%. The most frequent complications were calcification (10.4%) and suppuration (4.8%), as well as a combination of suppuration of the parasitic cyst with calcification of its wall (4%). The breakthrough of a suppurated cyst in the pleural cavity was diagnosed in 2 patients (1.6%), a breakthrough into the abdominal cavity followed by the development of peritonitis was observed in 1 patient (0.8%), a breakthrough of the echinococcal cyst into the bile ducts with obliteration of the latter and the development of mechanical jaundice in 2 patients (1.6%).

A comprehensive examination of patients with the use of ultrasound and computer tomography is important in the establishment of correct diagnosis. A comprehensive examination allows diagnosing the right localization of the echinococcal cyst, which determines the choice of optimal access

and method of operation. In case of difficulty in establishing the diagnosis, diagnostic laparoscopy was used. The use of informative ultrasound echography of the liver makes it possible to establish an accurate diagnosis. The study was performed in all patients.

Computed tomography was performed for all patients with subphrenic echinococcosis. This study allows not only to reveal the localization and size of the parasitic cyst, but also the calcification of the fibrous capsule. An integrated method of examination of patients with subphrenic cyst allowed putting the correct diagnosis before surgery in 96.1% of cases.

Results. The choice of optimal surgical access ensures adequate operation and depends on the location of the echinococcal cyst, the nature of the complications, the patient's condition. Thoracic-abdominal access at the eighth-ninth intercostal space with the intersection of the costal arch and the diaphragm is the most appropriate in patients with right-sided subphrenic localization. Access is advisable to patients with multiple subphrenic cysts of the liver and those with a pronounced adhesion process. This access creates all the conditions for performing adequate intervention on the convex surface of the liver, as well as in patients with various complications from the lungs, the latter being used in 31 patients.

23 patients were operated by the incision on the right hypochondrium parallel to the costal arch. This access is not as convenient as thoracic phrenic laparotomy, but less traumatic because it does not open the pleural cavity and allows removing echinococcal cysts not only from the right and left lobes of the liver, but also from the abdominal cavity.

Echinococcectomy from the liver through a wide median laparotomy access was performed in 64 (51.2%) patients. In 12 cases out of 64 removal of cysts from the liver was combined with echinococcectomy from the abdominal cavity, removal of cysts from the liver with splenectomy in 1 case and removal of cysts from retroperitoneal cavity on the left in 1 case.

At present, we consider cases of multiple echinococcosis, relapse of the disease, laparotomies carried out in past, complicated course of the disease, localization of cysts in difficult-to-reach segments of the liver as an indication for echinococcectomy from a wide upper median laparotomic access. If necessary, we used Sigal's retractor to create an adequate exposure to the diaphragmatic surface and its posterior (VII, VIII) segments.

In 7 (5.6%) patients with localization of cysts in the VII segment of the liver, a mini-access, created in our clinic, was used along the lower edge of the XI rib along the posterior axillary line.

In 38 cases (30.4%) we performed repeated operative procedures on the background of expressed adhesions process. We encountered some technical and tactical difficulties in the cases of widespread echinococcosis, when there was a combination of liver injury by the location of cysts under the diaphragm with a damage of the abdominal cavity. The choice of surgical intervention method was determined individually depending on the patient's condition, typical changes in the parasitic cyst, as well as pre sense of complications. We adhere to the tactics of sparing and organ-preserving methods of surgery. The most appropriate surgery is echinoccectomy, that is the removal of a cyst with all its elements or its membranes, followed by the elimination of the residual cavity in various ways. Removal of a parasitic cyst entirely in subphrenic location is always fraught with the occurrence of abundant bleeding, so we used this intervention only in exceptional cases.

Various types of echinococcectomy were performed to 125 patients. We mainly used 4 types of surgery: cyst extrusion (pericystectomy), closed echinococcectomy, half-closed echinococcectomy, Askerkhanov's omentoplasty. We used 2–3 methods of surgery simultaneously during the operation in 34(27.2%) patients with multiple cysts.

Closed echinococcectomy, or complete elimination of the residual cavity in the liver was performed in various versions. Indications for the implementation of closed echinococcectomy were cysts without signs of inflammation with the flexible walls of the fibrous capsule. This operation was performed to 61(51.2%) patients.

Closed echinococcectomy performed most often by suture plastics. Elimination of the fibrous cavity by capitonage of Delbe is shown in cysts of small and medium size and performed in 26(21.8%) cases. In this method, closure of the residual cavity was achieved by successive application of the sutures on the wall of the fibrous capsule. Unfortunately, the method is not applicable in the rigid walls of the fibrous capsule, which cannot be pulled together because of the opening of the sutures in large cavities of the residual cavity.

Elimination of the residual cavity by invagination by screwing sutures according to Yu. S. Gilevich is indicated in the presence of a rigid fibrous capsule and the location of hydatid cysts near the great vessels and bile ducts and was performed in 22 patients (18.4%). And in 13 patients (11%) capitonnage was carried out according to our methodology (rat. suggestion No 1508).

A very effective and simple method of closing the residual cavity was filling with an omentum on a nourishing pedicle, which was performed in 35 (28%) patients. Considerable reparative properties of the omentum contributed to the rapid obliteration of the residual cavity.

In case of liver echinococcosis complicated by suppuration of cysts and cystobiliar fistulas, the semi-closed echinococcectomy was mostly performed. This type of surgery was performed in 25(20%) patients. The essence of the surgery was leaving of drainage in the sutured residual cavity of the liver.

The surgery of pericystectomy (extirpation of a cyst) – the removal of an echinococcal cyst together with a fibrous capsule, was performed at the marginal location of the cyst and its calcification. The surgery was performed by complete excision of the fibrous capsule in 5 (4%) patients.

In the postoperative period, Albendosol was prescribed to all patients at a dose of 12 mg / kg for 28 days (3–5 courses with an interval of 14 days).

Postoperative complications were observed in 8 (6.4%) patients: suppuration of the residual cavity – 1, subphrenic abscess – 1, biliary fistula – 1, suppuration of the postoperative wound – 2. In 3 patients, a relapse of the liver echinococcosis was detected.

During the follow-up examination of these patients, performed from 6 months to 6 years, attention was paid to the results of the performed surgeries and the result of the invasion itself, such as postoperative hernias, scars deforming the abdominal wall, ligature fistulae and abdominal adhesive disease. Thus, the immediate results of the surgical treatment of patients with liver echinococcosis of the liver mainly depended on the course of the disease itself – the presence of certain complications.

We believe that when performing echinococcectomy, it is necessary to take into account such aspects of the surgery as its relation to the fibrous capsule: leaving it, partially or totally removing it; as well as its relation to the residual cavity, when it is eliminated by one of the methods or adequately drained. An important part of the surgery for subphrenic echinococcosis of the liver is the plastic of the diaphragm, when its strong stretching by parasitic cyst leads to a significant thinning as well as manifestation of defects.

Thus, in most cases, we sought to perform echinococcectomy with the elimination of the residual cavity by one of the methods. Drainage of the residual cavity was performed in case when it was impossible to perform another surgery, most often to patients with suppuration of a parasitic cyst.

Conclusions. Optimal surgical access provides an adequate surgery on the posterior surface of the liver. Toracic – phrenic laparotomy creates the best conditions for surgical intervention in multiple sub phrenic liver cysts and pronounced adhesions. In the surgical treatment of patients with liver echinococcosis, we consider the priority of organ-sparing operations. In uncomplicated liver echinococcosis, we consider to perform closed echinococcectomy. In case of suppurative echinococcosis of the liver, a semi-closed echinococcectomy was mostly performed. Indications for pericistectomy were cases of the marginal location of echinococcal cysts and their calcification.

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Baymakov Sayfiddin Risbaevich,
Ph D., of the Surgery and Military Field Surgery.
Tashkent State Dental Institute
E-mail: bsayfiddin@yahoo.com

Aslonov Zafarjon Ahrorovich,
assistant, surgery and military field surgery
Tashkent State Dental Institute
E-mail: azafarjon@list.ru

Boltaev Sherzod Shavkatovich,
assistant, surgery and military field surgery
Tashkent State Dental Institute
E-mail: saidazam9377@gmail.com

Yunusov Seydamet Shevket-oglu,
assistant, surgery and military field surgery
Tashkent State Dental Institute
E-mail: u-s90@mail.ru

ESTIMATED OF EFFECTIVENESS OF USING OF ENTEROSORBTION IN COMPLEX TREATMENT OF ACUTE INTESTINAL OBSTRUCTION

Abstract: Diagnosis and treatment of acute intestinal obstruction is one of the most complex problems of urgent abdominal surgery. Progression of acute intestinal obstruction and peritonitis of various etiologies promotes to the development of the syndrome of intestinal insufficiency, which is a complex symptom complex with violation of all bowel function. The most effective variant of correction of the syndrome of intestinal failure is naso-intestinal decompression in combination with various methods of intestinal therapy.

Keywords: intestinal obstruction, intestinal insufficiency syndrome, enterosorption, zerotox.

Diagnosis and treatment of acute intestinal obstruction (AIO) is one of the most difficult problems of modern surgery. Despite the achievements in this field of medicine and a large arsenal of various methods of postoperative intensive care, the results of treatment of patients with AIO can not be considered satisfactory, since the mortality rate due to this pathology is 17–21% [1; 2; 3; 9; 10].

Progression of AIO and peritonitis of various etiologies contributes to disruption of the gastrointestinal tract and metabolic processes in it with the development of intestinal paresis, the formation of toxic substances and overfilling with the toxic liquid contents of its lumen. Toxic factors and increase in intraluminal pressure lead to disturbances of microcirculation in the intestinal wall, have a detrimental effect on the nerve elements and musculature of the intestinal wall and together with other numerous pathogenetic changes in homeostasis cause the translocation of microorganisms and endotoxins from the lumen of the intestine to the systemic circulation [4; 6; 7; 9]. This justifies the generally accepted opinion that the development of the syndrome of intestinal insufficiency (SII) is one of the main mechanisms of the onset and progression of endogenous intoxication in the dynamics of the inflammatory process in the abdominal cavity and in the case of AIO against the background of intestinal paresis [3; 5; 12]. SII is a complex symptom complex, accompanied by a violation of all functions of the intestine, resulting in the latter becomes the main source of intoxication and development of multiple organ failure (MOF) [4; 7; 8; 10].

Considering the key role of the "intestinal" component of endotoxicosis in case of AIO, the interest of clinicians in various methods of removing toxic substances from the intestinal lumen and detoxification becomes clear. Obviously, a sufficient effect of surgical treatment of AIO and peritonitis can not be achieved in most cases without complex correction of SII. The most effective variant of such correction is nasointestinal decompression combined with various methods of intestinal therapy [2; 5; 7].

Along with the mechanical removal of toxic compounds from the lumen of the small intestine, an important role is played by enterosorption [1; 6; 7]. For this, drugs of sorption-detoxification action of various nature are used.

In recent years, information has appeared on the zerotox preparation of domestic production, obtained from the natural product – hydrolytic lignin husks of cottonseed, which

has a high adsorption capacity not only to toxic products of exogenous and endogenous origin, but also to pathogenic bacteria with subsequent destruction (Ismailova M. G., Yunuskhodjaeva Kh. G. 2014). Information on the use of this drug in surgical practice, we did not find [11].

The purpose of our study was to evaluate the effectiveness of the use of naso-intestinal decompression with enterosorption in the complex treatment of patients with AIO.

Materials and research methods. The results of examination and treatment of 63 patients with non-tumor origin AIO, hospitalized in the surgical department of 2 and 3 clinics of the Tashkent Medical Academy in 2014–2017 are analyzed. Patients were aged 16 to 83 years, of whom over 60 years old – 10 (15.9%) patients. The most common cause of AIO was adhesive intestinal obstruction – in 36 (57.1%) patients, and strangulation intestinal obstruction was diagnosed in 18(28.6%) patients and obturation intestinal obstruction – in 7(11.1%).

The collection of the history of the disease made it possible to establish that up to 6 hours from the onset of the disease 5(7.9%) patients appealed, up to 12 hours – 6(9.5%), up to 24 hours – 9(14.3%), for 1–3 days – 29(46%), after three days – 14(22.3%). Thus, in most patients, the duration of the disease exceeded two days.

The results of the clinical examination showed that in all patients the main complaint was pain (100%). Abdominal distention was observed in 51 (81%) patients, gas retention in 42(66.7%), stool in 40(63.5%), nausea and vomiting in 48(76.2%), thirst and dryness in the mouth – in 36(57.1%), weakness and dizziness – in 33(52.4%), body temperature increase – in 5(7.9%). In the analysis of objective data, dryness and pallor of the skin were revealed in 16(25.4%), abdominal distension – in 51(81%), with asymmetry – in 37(58.7%).

All patients after the diagnosis was carried out a set of conservative medical measures aimed at eliminating the AIO. The unsuccessfulness of these measures for two hours served as a testimony to the performance of emergency surgery, the choice of which depended on the operational finding and the cause of the AIO. When performing surgery, preference was given to the mid-median laparotomy, after which a revision of the abdominal cavity and the main stage of the operation in volume, depending on the nature of the pathology, were performed. The surgical intervention was terminated by intubation of the small intestine with a polyfunctional two-channel probe, which during the operation and from the first hours of the postoperative period was used for decompression, lavage and enterosorption. Antibiotic therapy was carried out with preparations of a wide spectrum of action, followed by correction, after clarifying the type of microflora.

It is important to note that in many cases, SII was accompanied by peritonitis, especially in cases of bowel necrosis: diffuse peritonitis was detected in 24(38.1%) patients, diffuse in 4(6.3%). In 11(39.3%) patients, the effusion was serous, 13(46.4%) had serous-fibrinous effusion, and 4(14.3%) had purulent effusion. These patients required adequate treatment of acute peritonitis both during surgical intervention and in the early postoperative period.

Depending on the treatment measures used, patients were divided into 2 groups: 25 patients made up a control group without sorbent, 38 patients with enterosorbent were included in the main group.

Patients of the control group received treatment according to the traditional method adopted in the clinic with an active post-operative decompression of the intestine (DI) and intestinal lavage (IL) in the early naso-intestinal probe. In the early postoperative period, active DI and IL were performed. The latter was carried out by dropping 1500 ml of saline solution (identical in its electrolyte composition to the small intestine) through a small lumen of the naso-intestinal probe, with an exposure of 30 minutes and subsequent active aspiration.

Patients of the main group received a complex of therapeutic measures supplemented with enterosorption. As an enterosorbent, a zerotox preparation based on hydrolytic lignin of cottonseed husks (manufactured by the A. Sultanov Uzbek Scientific Research Chemical and Pharmaceutical Institute, Tashkent) was used. To do this, a suspension was prepared based on 10.0 g zerotox powder per 1000 ml of a 0.9% sodium chloride solution. Enterosorption was started with a drip injection into the naso-intestinal tube. Single volume of sorbent was 500 ml. After the administration of the drug, the exposure was created for 30 minutes and active aspirating was carried out from the large lumen of the probe. In the future, every 8 hours (3 times per day) in the intensive care unit or the after-care ward conducted series of enterosorption. The rest of the time, the naso-intestinal probe was in the DC mode. Enterosorption was performed depending on the above parameters for 3–5 days. Prior to the operation and during postoperative follow-up, the volume of gastrointestinal contents of patients with AIO, obtained with the help of a naso-intestinal probe, was estimated.

The condition of the patients before and after the operation in the dynamics was evaluated by ultrasound, which, being the most accessible, cheap and highly informative research method for the diagnosis of AIO, along with the reduction in the time of examination of patients and providing the possibility of safe dynamic observation, reveals the presence of swollen loops and intestinal motility, free fluid in the lumen of the intestine and in the abdominal cavity. The sonography was performed on an ultrasonic instrument "Aloka SSD-500" using convection and sector sensors with a frequency of 3.5 and 4.0 MHz.

Diagnosis of endogenous intoxication (EI) was carried out using the calculation of leukocyte indices (leukocyte

index of intoxication (LII) according to the Kalf-Kalifa formula, pulse-leukocyte-temperature index of intoxication (PDTII) according to S. D. Khimich and L. H. Garkavi lymphocyte index) [6].

Studies of the species composition of the microflora of the exudate of the abdominal cavity and intestinal contents in patients with AIO were conducted at the Department of Microbiology of the Tashkent State Dental Institute. The material was taken during the operation, then after the operation at 1-, 3-, 5-, and 7th days with the observance of the rules of aseptic and antiseptic. Taken exudate and intestinal contents were delivered to the laboratory in the same volume with a thioglycolic medium (a universal medium for maintaining the viability of aerobes and anaerobes) for 2 hours, a number of serial dilutions were prepared from them in the laboratory. Quantitative assessment of the content of microorganisms in various media was performed using the Gould sector method for highly selective nutrient media. When working on a modified procedure, the result was taken into account with the latest dilution, in which bacterial growth was obtained. The number of microbes of each species was expressed in lg CFU/ml.

Results and its discussion. The use of enterosorption facilitated faster normalization of the condition, decreased intensity and disappearance of pain, changes in body temperature, restoration of intestinal motility, determined by clinical signs in the postoperative period.

The positive process was also revealed in ultrasound pictures in dynamics. The volume of gastric contents of patients with AIO before surgery was up to 1 L and decreased in the postoperative period up to 5 days. The use of zerotox accelerated this process for almost 2 days.

The results of the study also showed that the indices of the inflammatory process – leukocytosis and ESR were the highest at admission, i.e. at the height of the disease, and returned to normal only 7 days after the operation. In patients who received enterosorption, the norm was achieved 2 days earlier.

LII in the blood of patients on the day of surgery, showing a 3-fold increase in the leukocyte shift pattern, characterized the severity of the process, largely a marker of bacterial aggression. A day after the operation, except for the tendency to a certain increase, there were no special changes in this indicator. Subsequently, there was a gradual decrease in LII in the control group, approaching normal values only 5 days after the operation. While the use of enterosorbent statistically significantly reduced this period for 2 days.

On the day of the operation, patients with AIO with a marked picture of intestinal failure against a background of high levels of intoxication, a significant drop in the lymphocyte index of L. Kh. Kharqavi arose. This circumstance indicates the failure of the immune system in the anti-infective control of the microbial flora, including inside the intestinal wall. However, this index begins to be restored 24 hours after the operation and if in the control group it reaches the lower limit of normal values only after 5 days from the operation day, the use of enterosorbent reduces this period by 2 days.

The intestinal microflora after the application of enterosorbent was significantly improved already on the 5th day after the operation. So against the background of an increase in the number of anaerobic bacteria, the content of aerobic bacteria is significantly reduced. On the 7th day, the amount of anaerobic and aerobic microorganisms approached the norm. Staphylococci, streptococci and protaeus were not detected.

Examination of the abdominal cavity in patients with AIO revealed significant violations of local protective factors, as expressed at the height of the AIO, as well as in the early periods after the operation. And the progression of intestinal dysbiosis was accompanied by more significant violations of local immunity. On the third day, when the indices of dysbiosis improve somewhat, in parallel, positive changes occur and local protection factors. In healthy people, the local factors of protection (lysozyme titer, phagocytosis index and sIgA level) in healthy subjects in comparison with biological fluids (blood, saliva) of other parts of the body changed insignificantly. However, with the onset of the development of AIO, these indicators due to inflammation and translocation of the intestinal microflora significantly increase, which is evident from the exudate taken during the operation. At the same time, 24 hours after the operation, pronounced immunodeficiency occurs in all the exponents of the abdominal cavity in all indices of local factors of protection, which was caused by the stressful situation and the use of narcotic drugs.

Postoperative complications were observed in 7(28%) patients, mainly with a severe degree of endotoxemia. The reason, in our opinion, was a slow decline in the level of EI in these patients, despite the spent in the postoperative period of DI and IL. In the control group, 2 patients (8%) died due to multiorgan insufficiency.

In patients of the main group after the application of enterosorbent, on the 3rd day after the operation in the exudate of the abdominal cavity the local factors of protection were restored, approaching the control values.

Analysis of the results of treatment showed that due to a differentiated approach to the treatment of AIO in the main group, postoperative complications occurred only in 5(13.2%) patients 1(2.6%) died of myocardial infarction.

Thus, based on the studies conducted in patients with IPC, the development of dysbiosis in the contents of the intestine, as well as microbial contamination in the exudate of the abdominal cavity in the presence of peritonitis, indicating a bacterial translocation. In the exudate of the abdominal cav-

ity, the indicators of local factors of protection significantly increase in patients with AIO, which is associated with the development of the inflammatory process.

The detoxification effect of naso-intestinal intubation is more effective in a complex with enterotoxicosis by zerotox, which is confirmed by the dynamics of changes in EI parameters, early restoration of intestinal peristalsis, improvement of the general condition of the patient. Zerotox shortens the process of postoperative normalization of the general state, body temperature, restoration of intestinal motility, reduction of pain intensity, leukocytosis and ESR, indices of intoxication (PLTII and FII) and intensity of immune response (L. H. Garkavi's lymphocyte index) for almost 2 days.

After the application of enterosorbent, the quantitative and qualitative composition of the intestinal microflora is significantly improved, an earlier cessation of exudation into the abdominal cavity is observed, as well as positive shifts of all local defense indicators already on the 3rd day after the operation, which significantly reduces the number of postoperative complications and lethality.

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Yusupalikhodjaeva Saodat Hamidullaevna,
PhD., Tashkent State Dental Institute, Uzbekistan
the Faculty of Therapeutic stomatology
E-mail: syx76.76@mail.ru

Bekjanova Olga Esenovna,
PhD., ScD., Tashkent State Dental Institute, Uzbekistan
the Faculty of Therapeutic stomatology
E-mail: bekjanovaolga@mail.ru

Yodgorova Nodira Turgunboevna,
PhD., associate professor of the department
of Microbiology, Virology and Immunology
of the Tashkent Medical Academy, Uzbekistan
E-mail: yodgorova1977@bk.ru

Patkhiddinov Jaloliddin Sharofiddin o'gli,
student, Tashkent State Dental Institute,
Uzbekistan the Faculty of stomatology

STUDY OF THE ADHESIVE PROPERTIES OF CANDIDA STRAINS IN AN IN VITRO TEST USING ERYTHROCYTES AS TARGET CELLS

Abstract: The appearance of endogenous toxins in the blood leads to disturbances in the biotransport system of toxins-a decrease in the sorption capacity of erythrocytes, albumin concentration, as well as a decrease in the concentration of total protein and fibrinogen, redistribution of protein and phospholipid fractions.

Keywords: candidiasis, mucous membrane of an oral cavity, erythrocyte, adhesive.

Currently, there is an increase in fungal opportunistic infections, among which a significant part is candidiasis. The wide prevalence and diversity of Candida environment, their resistance, high susceptibility of the population, the possibility of developing persistence and carrier, the polymorphism of clinical manifestations makes candidal infection a very urgent problem of our days. The development of infection depends on the virulence of the candida, the condition of colonized tissue, and the severity of immune responses [1; 3]. At the same time, the question remains about the triggers of candidiasis and the mechanisms of interaction of Sandida with the macroorganism.

The factors of pathogenicity factors that provide adhesion and invasion of C.albicans are fairly well characterized [2; 8; 9].

Research in the system "microorganism – a macroorganism" can help to identify mechanisms of adaptation of pathogens to changing conditions of existence, to solve problems of chronicization and exacerbation of the disease.

Objective of research: To assess the adhesion of Candida fungi to erythrocytes of patients with different clinical course of the disease.

Materials and methods. The venous blood of patients with oral candidiasis served as a material for obtaining red blood cells, as a control, the blood of patients without signs of oral pathology was used.

As an anticoagulant, a 3.8% solution of sodium citrate (1 : 10) or heparin (3.0 U/ml blood) was used. Not later than 24 hours after taking blood, red blood cells were washed three times with a tenfold volume of sterile 0.9% sodium chloride solution (pH 7.2) by centrifugation at 300 g for 10 min, after which it was suspended in the same solution. Tanified erythrocytes were prepared according to the method described by Bondarenko and co-authors (Bondarenko et al., 1987), formalized erythrocytes – according to the method of Kolganova (Kolganova, 2003).

When the possibility of registration of adhesion was revealed, the proposed method used the Candida culture, isolated in patients with candidiasis of mucous membrane of an oral cavity (MMOC). As a comparison, Candida strains isolated from donors were used. The microbial cells were suspended in a sterile 0.9% solution of sodium chloride (pH 7.2). The final concentration of bacteria in the suspension corresponded to 1.0 unit optical density (OD) at a wavelength of transmitted light of 540 nm and the optical path length of the cuvette of 5 mm. To comply with standard conditions at this stage of the experiment, the erythrocytes of only one 0 (I) Rh + blood donor were used. 2.5 ml of a suspension of microbial cells and 1.0 ml of a suspension of erythrocytes in a concentration of 0.1 × 109 /ml were introduced into the tubes. Controls were samples

containing; 2.5 ml of a suspension of microbial cells and 1.0 ml of a 0.9% solution of sodium chloride (pH 7.2) (control sample No. 1); 1.0 ml of erythrocyte suspension and 2.5 ml of 0.9% sodium chloride solution (pH 7.2) (control sample No. 2). Experimental and control samples were incubated at a temperature of 37 ± 1 °C on a rotating platform for 30 minutes, and then centrifuged at 80 g for 1.5 min to precipitate the red blood cells. After this, a supernatant of 2.0 ml was taken from the samples and its OP was measured.

The level of adhesion was calculated using the formula for determining the hydrophobic properties of microbial cells:

$$AI = (D_{к1} + D_{к2} - D_{op})/D_{к1} \times 100\%,$$

where AI is the adhesion index, Dk1 is the supernatant of the supernatant in control sample No. 1, Dk2 is the supernatant supernatant in control sample No. 2, Dop is the supernatant of the supernatant in the test sample.

The study of the adhesive properties of Candida strains in an in vitro test using erythrocytes as target cells was carried out in two series of experiments:

I. Studying the adhesion of Candida strains to donor erythrocytes.

1.1. Adhesion of Candida strains to donor erythrocytes.

1.2. Adhesion of Candida strains to donor erythrocytes in the presence of blood plasma in patients with candidal stomatitis.

Results and discussion. The study of the adhesive properties of Candida against donated erythrocytes showed a significant increase in the adhesive potential of fungal strains isolated from patients with candidal stomatitis. Adhesive activity of the strains isolated in the control group ranged from 6.52 + 0.22% to 3.02 + 0.12%; while in patients with candidal stomatitis, there was an increase in adhesive activity that was about 8–10 times higher relative to the control group ($P \leq 0.01$). Thus, the values of AI S. albicans. fluctuated within the limits of 45.11 ± 2.01% – 66.60 ± 2.72%; C.tropicalis 35.00 ± ± 1.65% –55.31 ± 2.65%; C.globrata 26.81 ± 1.07% – 45.92 ± ± 2.02%, C.crusei 26.85 ± 1.16% – 43.11 ± 1.59% and C. Gulermonde-27.81 ± 1.21% – 50.82 ± .2.03%. The obtained results, which testify to the expressed ability of Candida to attach to erythrocytes, suggested the presence of the phenomenon of Candida adhesion to red blood cells under macroorganism conditions. It is known that Candida fungi are able to use Hb as a universal source of iron and porphyrins, necessary for the normal life of a microbial cell and for the synthesis of DNA (Kutyreva, MP, et al. 2012). In our opinion, adhesion can be the initial stage of such intercellular interaction, preceding the invasion. Analysis of these experiments showed a sharp increase in the adhesion of the strains studied to the erythrocytes of donors incubated with plasma patients. At the same time, in the control group, on the contrary, a decrease in adhesion was observed. It is obvious that the plasma of patients without candidal lesions does not have inflammatory effectors and other factors determining adhesive candida reactions, so the incubation of donor erythrocytes with plasma of healthy individuals (control group) led to the stabilization of erythrocyte membranes and a decrease in adhesion. Thus, in the AI control group, S. albicans decreased by 50.61%; C.tropicalis at 52.15%; C.globrata – by 48.36%, C.crusei 33.11%% and C. Gulermonde- 52.59%.

In contrast, in patients with candidiasis, MMOC AI increased depending on the nosological form and stage of candidiasis for S. albicans by 30.07% – 44.14%; C.tropicalis at 28.02% – 62.56%; C.globrata – by 28.78% – 90.02%, C.crusei 28.12% – 62.86% and C. Gulermonde – 36.81% – 75.98%. Thus, the blood plasma of patients with candidal stomatitis is able to significantly increase AI candida, realized in systems with erythrocytes. It is shown that the efficacy of Candida adhesion to erythrocytes depends on the pathogenic potential of the fungal cell and the state of the systemic metabolic processes that accompany the development of candidiasis lesions. An increase in the adhesive potential of Candida is the first and mandatory stage in the development of candidiasis. At the same time, many factors can influence the realization of the adhesive potential in the "candida-erythrocyte" system, both from the candidiasis and from the host organism. The latter, in our opinion, can include toxic products of tissue decay caused by the presence of a lesion lesion on the MMOC, which cause a decrease in the structural and functional characteristics of red blood cells.

It is obvious that the accumulation of endogenous toxic substances in the body during the development of candidiasis of CRS can have a damaging effect on cellular structures and their metabolism [3; 7; 9]. A model system for the study of structural and functional characteristics of cells is erythrocytes. Today it is reliably known that red blood cells are involved in the pathological process and undergo serious changes in structure and function in diseases of different genesis. It has been proved that the revealed regularities of the structure and function of the erythrocyte membrane can be extrapolated to other membrane systems [4; 5]. The researchers' interest in erythrocyte in diseases of different genesis is caused by its participation in the processes associated with the maintenance of homeostasis, including immune ones [6]. Existing data leave no doubt that erythrocytes are an important link in the mechanism of immunoregulation in pathological conditions and under stress conditions [3–6].

In this connection, the next stage of the research was the study of the adhesive properties of Candida strains to their own erythrocytes in patients with candidal stomatitis, as well as the influence of donor blood plasma on the adhesive properties of Candida strains of patients with candidal stomatitis in an in vitro experiment.

The maximum adhesive activity was detected when the Candida strains were adhered to their own erythrocytes in patients with candidal stomatitis. Thus, in patients with candidal stomatitis AI S. albicans ranged from 86.00 ± 4.11% to 92.11 ± ± 4.11% increasing to 100.0% with exacerbation of chronic forms of the disease; C. tropicalis, respectively, at 78.41 ± ± 3.14% – 87.81 ± 4.09% and 95.00 ± 3.25%; C. globrata – at 65.30 ± 3.02% – 70.28 ± 3.33% and 90.31 ± 4.25%; C. crusei at 63.42 ± 2.66% – 71.41 ± 3.02% and 88.23 ± 3.81% and C. Gulermonde – 59.42 ± 2.31% – 69.81 ± 2.81% and 92.31 ± ± 4.00% (Table 1).

Table 1.– The indices of adhesion (AI in%) of Candida fungi to donor erythrocytes

№	Type Candida	Control	Antilactoferrin activity ng / ml				
			acute		chronic		
			in 37.00	in 37.01	in 37.02	in 37.03	exacerbation
adhesion to red blood cells of donors							
1.	C.albicans	6.52 ± 0.22*	52.33 ± 2.61°	54.21 ± 2.66·	41.42 ± 2.23·	45.17 ± 2.01·	66.60 ± 2.18·
2.	C.tropicalis	4.41 ± 0.16*	36.92 ± 1.55·°	40.32 ± 2.01·°	39.42 ± 1.80·°	35.07 ± 1.65·°	55.31 ± 2.65·°
3.	C.globrata	3.22 ± 0.11*	37.52 ± 1.62·°	37.11 ± 1.52·°	30.82 ± 1.37·°	26.81 ± 1.07·°	48.92 ± 2.07·°
4.	C.crusei	3.02 ± 0.12*	41.61 ± 1.77·°	30.25 ± 1.44·°	26.85 ± 1.16·°	31.22 ± 1.32·°	43.11 ± 2.01·°
5.	C.gulermonde	4.05 ± 0.18*	38.25 ± 1.61·°	93.10 ± 1.37·°	30.32 ± 1.32·°	27.81 ± 1.21·°	50.82 ± 2.43·°
adhesion, after the incubation of red blood cells of donors with blood plasma of patients with candidal stomatitis							
1.	C.albicans	3.22 ± 0.12*	68.32 ± 3.21°*	70.51 ± 3.42°*	65.32 ± 3.02·	65.02 ± 3.11·*	88.32 ± 3.65°*
2.	C.tropicalis	2.11 ± 0.009*°	59.25 ± 2.62·*	60.02 ± 2.59·*	61.02 ± 2.52·*	68.11 ± 3.12·*	70.81 ± 3.44·*
3.	C.globrata	1.62 ± 0.07*°	48.32 ± 2.11·*	58.76 ± 2.74·*	49.03 ± 2.17·*	51.0 ± 2.51·*	66.25 ± 3.14·*
4.	C.crusei	2.02 ± 0.08*	60.01 ± 2.58·*	44.21 ± 2.01·*	40.21 ± 1.68·*	40.0 ± 1.48·*	70.21 ± 3.33·*
5.	C.gulermonde	1.92 ± 0.09*°	52.33 ± 2.60·*	58.75 ± 2.81·*	48.26 ± 2.33·*	40.37 ± 1.51·*	73.45 ± 3.59·*

Note: · – P <0.05 in relation to the control

** – P <0,05 with respect to adhesion to donor erythrocytes*

° – P <0,05 in relation to C.albicans

At present, one of the most promising areas in biomedical research is the study of the nature of changes in the surface charge of red blood cells.

Conclusion. An analysis of the adhesiveness of Candida strains to erythrocyte membranes of patients with candidal stomatitis revealed ambiguous relationships between the pathogenicity of strains and the level of their adhesion to host erythrocytes. It is obvious that the accumulation in the organism's environment of diseased products of altered metabolism of exogenous and endogenous origin leads to a disruption in the structure and function of cell membranes, inevitably accompanied by an increase in the adhesion of Candida cells to them and an increase in pathogenic potential. It should be noted that membrane damage determines such functions of red blood cells as the binding and transportation of various compounds, including drugs that enter the body. This may be one of the causes of torpidity of the disease in patients with candidiasis of the oral cavity. The obtained data reveal the pathogenetic basis of the development of endogenous infections in patients with candidal stomatitis of the oral cavity.

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Yusupova Dilnoza Bakhtiyarovna,
assistant of the oncology department
of the Tashkent Medical Academy
Mirza Allayarovich Gofur-Okhunov,
professor, Head of the Oncology Department
of the Institute for Advanced Medical Studies
Tashkent Medical Academy, Tashkent
E-mail: www.ballack16@mail.ru

THE ROLE OF IMMUNOHISTOCHEMISTRY IN THE TREATMENT OF BREAST CANCER IN ELDERLY AND SENILE PATIENTS

Abstract: Currently, there are the following subtypes of breast cancer: luminal A, luminal B, triple negative (TH) / basal-like, non-terminal HER2 positive and 5th – "unclassifiable". Such a subdivision into types, having already reached the level of a standard procedure in medical practice, is reflected in the features of the course of the disease, the prognosis and outcome has age priorities.

Keywords: luminal type, breast cancer, elderly and senile age.

Breast cancer (BC) is the 1st among cancer patients, and is the 2nd cause of death after cardiovascular disease. Breast cancer is manifested by pronounced heterogeneity, which is probably due to the presence or absence of steroid hormone receptors in the tumor, primarily estrogen and progesterone. As might be expected, one of the leading factors among such factors was the age of patients with a boundary, often passing at the turn of the end of the reproductive period and the onset of menopause. According to materials provided by the Danish Breast Cancer Cooperative Group, the frequency of ER + PR + neoplasms (about 63% of all observations) increased steadily with age, showing a transient decrease only in the range of 43–47 years. The frequency of the opposite, receptor-negative, variant of tumors (ER – PR–), averaging 17.6%, increased to 50 years, after which it remained unchanged. The share of the ER + PR– subtype (on average, 13.9%) grew quite rapidly immediately at the onset of menopause, after which this increase slowed down. In contrast, the incidence of rarely detected ER – PR + tumors (5.6%) increased only until the age of 43–45 years and then decreased.

In a later work, A. Kurianetal (2010) confirmed that the peak of detection of luminal neoplasms occurs in women over the age of 70 years (about 32–35% of tumors of this kind versus 20–23% at the age of 50–59 and 60–69 years). HER2 – positive and triply negative carcinomas, as noted earlier, were characterized by a peak in the range of 40–59 years. Such repeatedly witnessed "linking" to the stages of carcinogenesis, characterized, in particular, by lower or greater estrogen saturation, allows you to refer to information that describes the state of the reproductive function of patients with different subtypes of breast cancer based on anamnestic and epidemiological data. Despite the variability (from the ethnic factor and age period), it seems that the risk of developing luminal carcinomas (both A and B) increases in women who have not given birth, as well as in menopause over the age of 53–55 years, and may decrease with prolonged feeding in excess of 6 months. The arrival of menarche earlier than 13 years was associated with cases of breast cancer characterized by HER2 + overexpression, but, unlike the previously expressed point of view, it did not increase, but reduced the risk of occurrence of TN (basal cell) carcinomas. With the same TN breast cancer, the lack of childbirth in history does not affect the degree of risk. Age at first birth older than 30 years, according to recent observations, has little to do with the risk of luminal or TN neoplasms, but it increases the risk of HER2 + breast cancer. That is, it is possible that non-terminal variants of the disease also have a certain hormonal sensitivity and dependence on the hormonal and metabolic status.

The molecular subtype of breast cancer was determined on the basis of gene expression (validated immunohistochemical surrogate pane; l) The following subtypes were identified: 1) luminal A-type (ER + and / or the presence of PR +, HER2–, Ki-67 receptors, < 14%); 2) luminal B-type (ER + and / or PR +, HER2–, Ki-67 14%); 3) luminal HER2-type (ER + and / or PR +, HER2 +); 4) HER2-positive type (ER– and PR–, HER2 +); 5) basal-like type (ER–, PR–, HER2-, cytokeratin 5/6 + and / or HER1 +); 6) nonbasic type – (ER–, PR–, HER2–, cytokeratin 5/6– and /or HER1). Tumors with a necrotic factor tumor (TNF) without expression of EGFR and CK 5/6 were classified as non-basaloid with TNF and isolated into a separate group.

Another achievement is based on the involvement in the analysis of the so-called genetic "portraying" (or profiling) of mammary carcinoma tissue. At the same time, using

microarray analysis of complementary DNA in tumor material, the expression of several thousand biologically significant genes was evaluated, processing of which led to the selection of several of the most typical and differing variants. These subtypes: luminal A, luminal B, three times negative (TN)/basal-like, HER2 and 5th – "unclassifiable".

In fact, the classification itself is built on the basis of such characteristics as the progenitor cell (luminal or basal epithelium); the presence or absence in the tumor of steroid receptors and receptors HER2 (ErbB-2) – receptor tyrosine kinase, a member of the family of epidermal growth factor; proliferative potential; the presence or absence of cytokeratin 5/6, characteristic of myoepithelial (basal) cells. Such a subdivision into types, having already reached the level of a standard procedure in medical practice, is reflected in the features of the course of the disease. For example, according to the cited information, the luminal subtype A is characterized by the best prognosis, the highest survival rate of patients and a rather low frequency of disease return, and vice versa, triple negative breast cancer is characterized by high malignancy, aggressive course of the disease and an unsatisfactory response to standard therapy. The luminal subtype B is closer in this respect to the luminal subtype A, and the subtype with overexpression of HER2 is closer to TH.

According to materials provided by the Danish Breast Cancer Cooperative Group, the frequency of ER + PR + neoplasms (about 63% of all observations) increased steadily with age, showing a transient decrease only in the range of 43–47 years. The frequency of the opposite, negative receptor, variant of tumors (ER – PR–), averaging 17.6%, increased to 50 years, after which it remained unchanged. The share of the ER + PR– subtype (on average, 13.9%) grew quite rapidly immediately at the onset of menopause, after which this increase slowed down. In contrast, the incidence of rarely detected ER – PR + tumors (5.6%) increased only until the age of 43–45 years and then decreased [1].

A number of other works of this kind have been considered by W. Andersonetal. (2006) not so much as a reflection of bimodality in the age-dependent distribution of the frequency of breast cancer, but rather as confirmation of a long-standing viewpoint on the existence of two main forms of the disease: pre- and postmenopausal, differing primarily in their estrogen dependence. As additional evidence, the authors relied on data on the distribution of individual morphological variants of mammary gland tumors by age group, showing that intraductal, tubular and lobular carcinomas are characterized in this regard by double-vertex; – in 65–70 years. Comparing these observations with data on the discovery of steroid hormone receptors in the same tumors, W. Andersonetal. (2006) found a certain compliance with their expectations, with the exception of information regarding medullary carcinoma. However, extrapolating their results to the above-mentioned classification of subtypes of breast cancer, they concluded that the combined group of luminal neoplasms (luminal A and B) is characterized for Europeoids in addition to steroid receptor positivity with an age peak of about 74 years, and the group "basal and HER2-expressing receptor-negative tumors, a significantly different peak at the age of 50–52 years. Ethnicity turned out to be an important factor modifying both the receptor phenotype of breast tissue and the frequency of detection of individual disease subtypes, as can be seen, for example, in the example of the Japanese and African American populations [2].

In the later work of A. Kurianetal. (2010) confirmed that the peak of detection of luminal neoplasms occurs in women over the age of 70 years (about 32–35% of tumors of this kind against 20–23% between the ages of 50–59 and 60–69 years). HER2 and triply negative carcinomas, as noted earlier, were characterized by a peak in the range of 40–59 years. Such repeatedly witnessed "linking" to the stages of carcinogenesis, characterized, in particular, by lower or greater estrogen saturation, allows you to refer to information that describes the state of the reproductive function of patients with different subtypes of breast cancer based on anamnestic and epidemiological data. Despite the variability (from the ethnic factor and age period), it seems that the risk of developing luminal carcinomas (both A and B) increases in women who have not given birth, as well as in menopause over the age of 53–55 years, and may decrease with prolonged feeding in excess of 6 months. The arrival of menarche earlier than 13 years was associated with cases of breast cancer characterized by HER2 + overexpression, but, unlike the previously expressed point of view, it did not increase, but reduced the risk of occurrence of TH (basal cell) carcinomas. With the same TN breast cancer, the lack of childbirth in history does not affect the degree of risk. Age at first birth older than 30 years, according to recent observations, has little to do with the risk of luminal or triply negative tumors, but it increases the risk of HER2 + breast cancer. That is, it is possible that non-terminal variants of the disease also have a certain hormone-sensitivity and dependence on the hormonal and metabolic status [3].

Clinical and morphological variants of breast cancer (BC), used by various classifications, including WHO, do not exhaust the entire morphobiological diversity of this category of tumors. The establishment of an infiltrating nonspecific breast carcinoma is not always justified, since in a number of observations the tumor has a heterogeneous structure represented by different types of cells. In this case, the assessment of the biological properties of the tumor itself makes it possible to evaluate its histogenesis, secretory and hormonal activity,

and therefore to judge the invasive properties and the possibility of using targeted treatment [4].

Based on the above data, it was proposed to determine several molecular genetic forms of breast cancer.

1. Breast cancer, corresponding to the level of the stem cell of the breast. The genes of the cloudin family are disabled."

This form occurs in 5–10% of patients, often at a young age. It is determined by the following characteristics: the genetic profile of the tumor is similar to that of the MF stem cells. Often reveal: lymphocytic infiltration, ER–, PR–, HER2–, Grade III. This form is distinguished by relatively less chemosensitivity, lack of effect after the use of targeted drugs, poor prognosis. Requires aggressive treatment.

2. Breast cancer, corresponding to the level of the bipotent and early luminal precursor (BRCA1 – mutated or its expression is sharply reduced); basal variant. This form occurs in 10–25% of patients, often at a young age. It is determined by the following characteristics: ER–, PR–, HER2–, Grade III, sometimes with the expression of steroid hormone receptors, Tet 5/6–60%, EGFR – in 50–70% of cases. Histologically – invasive ductal or (less commonly) lobular carcinoma, metaplastic carcinoma, oat cell carcinoma. The form is characterized by a special genetic profile, unfavorable prognosis. Often, metastases to visceral organs and the brain are detected. However, with this form, a relatively high chemosensitivity of the tumor was noted. The prescription of platinum drugs, PAPP inhibitors, angiogenesis inhibitors, and dose-intensive therapy is effective. The rapid development of chemoresistance is noted. This form requires aggressive treatment.

3. Breast cancer, corresponding to the level of late luminal precursor. HER2 + option. This form occurs in 10–15% of patients, from young age to menopause. It is determined by the following characteristics: ER–, PR–, HER2 +, Grade, in 1/3 of the patients Toro2a overexpression is detected. The form is characterized by an unfavorable prognosis. Metastases to the visceral organs and the brain are often detected. In this form, a high chemosensitivity of the tumor was noted. High effectiveness of adjuvant and neoadjuvant chemotherapy (CT) with the appointment of trastuzumab (anti-HER2 monoclonal antibody) and lapatinib (inhibitor of tyrosine kinase HR1 and HER2). This form requires aggressive treatment.

4. Breast cancer (luminal type B), corresponding to the level of differentiated cells. Form occurs in 10–15% of patients. Identified in young, perimenopausal and early postmenopausal age. Characteristics: ER ±, PR ±, HER2 ±, Grade II – III; Toro2a overexpression is possible, in combination with HER2 overexpression. The form is characterized by a poor prognosis. Often, metastases to visceral organs, brain, bones and soft tissues, skin, lymph nodes (LN) are detected. High chemosensitivity of the tumor was noted to anthracyclines (with overexpression of Toro2a), taxanes, and other drugs.

Currently, neoadjuvant systemic therapy is used not only for locally common process, but also for operable stages (cT2N1, with T3N0 stages) both to achieve the possibility of performing organ-preserving treatment instead of radical mutilation, and to determine sensitivity to systemic types of treatment [5; 6]. The effectiveness of non-adjuvant systemic therapy in patients is determined using physical methods (palpation), as well as instrumental (radiation) methods, where the response criterion is the reduction in the size of the tumor and metastatic lymph nodes. Pathological assessment of the tumor response to treatment is determined by changes both at the cellular level (dystrophy, apoptosis) and tissue (formation of necrosis fields, development of foci of fibrosis and sclerosis, which constitute the tumor bed. The most accurate method is microscopic evaluation of tumor size [7]. In addition, there is the concept of a complete pathological response.

According to a study conducted on the archival material of the pathoanatomical department with a prosektur and surgical department of mammary gland tumors, N. N. Petrov Federal Institute for Oncology and Oncology, obtained in 2011–2017. The research materials of which were trepanobipticular breast tumors, taken before the start of neoadjuvant systemic therapy, and surgical material obtained after its completion. According to the results of the study, it was revealed that most often the complete pathological morbid response is observed with Her 2 positive and triple negative breast cancer. This undoubtedly does not mean that the prognosis and long-term results of treatment of Her 2 positive and three-fold negative subtypes of breast cancer are better than the luminal A subtype, in which complete regression of the tumor rarely occurs, but 5-year and 10-year survival is incomparably higher than with Her 2 positive and triply negative breast cancer [8].

Observations have shown the effect of cancer type on the process of metastasis, which is of clinical significance. Previous studies have shown significant differences in the timing of long-term recurrence: early reversal metastasis is characteristic of re-negative tumors, and later remission is characteristic of re-positive tumors. A high frequency of early relapses is detected in basaloid breast cancer with HF breast cancer and HER2 + subtypes. Luminal A tumors metastasized less frequently than others for 15 years after diagnosis. The cumulative frequency of metastases in the bones with luminal B, luminal HER2 + and HER2 + subtypes of early breast cancer exceeded 30%, that is, bones are the most frequent target of distant metastasis.

Molecular subtypes (luminal A, luminal B, luminal B Her2/neu +, Her2/neu +, triple negative) were found to be of great prognostic value in the elderly population, even after stating competing mortality [9]. This study partially rejects

the hypothesis that the nature of the tumor in the elderly is different or has a more favorable course than in younger patients, since it was shown that the most aggressive tumor subtypes in young patients (ERBB2 + and triple negative) also predict a worse prognosis. At the same time, a sample of elderly patients was more likely to have a more favorable luminal A type than in previous studies conducted in middle-aged patients. Less controversy and uncertainty exist around hormone therapy (HT) in elderly patients. For patients with HR + metastatic breast cancer guidance from the National Comprehensive Cancer Network (NCCN), endocrine therapy is a first-line treatment [10].

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Yusupova Dilnoza Bakhtiyarovna,
assistant of the oncology department
of the Tashkent Medical Academy
Mirza Allayarovich Gofur-Okhunov,
professor, Head of the Oncology Department
of the Institute for Advanced Medical Studies
Tashkent Medical Academy, Tashkent
E-mail: www.ballack16@mail.ru

THE RESULTS OF COMPLEX TREATMENT OF BREAST CANCER IN PATIENTS OF ELDERLY AND SENILE AGE

Abstract: The incidence of breast cancer is a serious medical and social problem in the world. The course of breast cancer in the elderly has a number of features, which is associated with an increased risk of developing various kinds of complications, given the presence of comorbidities. To date, there are no specific clinical guidelines for this age group, which makes this article relevant.

Keywords: breast cancer, advanced age, complex therapy.

The incidence of the female population of breast cancer for several decades remains the 1st place in the world, and an increase in the incidence is noted not only in Europe and America, but also among countries in Asia and Africa. In recent years, significant progress has been made in the diagnosis and treatment of breast cancer due to the effective work of screening and an individualized approach to treatment [1].

Epidemiological studies indicate a slow but steady decline in the average age at which the disease is determined, however, more than half of new cases of breast cancer occur in women over 65 years of age. The average life expectancy for healthy women over the age of 70 is 15.7 years, and for 80-year-olds it is 8.6 years. It is statistically proved that breast cancer reduces the life expectancy in women 50–65 years, without significantly affecting this indicator in women 75–80 years. [2].

The extremely complex nature of malignant tumors of the mammary glands has determined the need for an accurate extended diagnosis taking into account the luminal type of the tumor, and as a result, the choice or use of all existing methods of treatment – surgical, radiotherapy, medication (chemotherapy and hormone therapy). The fundamental task in conducting adjuvant therapy is to obtain the maximum therapeutic effect and minimal side effects. [3]

Material and methods

We treated for the period from 2010 to 2018 years 111 patients with breast cancer over the age of 60 years on the basis of the city branch of the city branch of the republican specialized scientific and practical medical center of oncology and radiology. The average age of patients was 67 years.

As seen from the table, the high detectability of patients with malignant neoplasms of the mammary glands in postmenopausal maximum account for process stage II. The main complaints at admission were the presence of a tumor in 100 patients (90%), the presence of a tumor + pain in 9 (9%) and discharge from the nipple in 2 patients (1%).

Table 1.– The distribution of patients by stage

Stage of the process	Number of patients (n=111)
I	10(9%)
II	68(61%)
III	20(18%)
IV	13(12%)

Basically, the tumor was localized in the upper-outer quadrant in 55 patients (49.1%), in the lower-outer quadrant in 30 patients (26.8%), in the upper-inner in 12 (10.9%), total lesion occurred in 5 patients (4.9%), in the lower-inner quadrant in 5 (4.4%) patients and central localization was in 4 patients (3.9%).

Patients were comprehensively examined, mammography, ultrasound, cytological and histological examination were performed on all patients. The diagnosis in all patients was histologically verified. (table number 2).

Table 2.– The distribution of patients depending on the histological structure of the tumor

Histological type of tumor	The number of patients (n = 111)
Infiltrative ductal carcinoma	75(67%)
Infiltrative lobular cancer	11(9.4%)
Slimy cancer	8(7.4%)
Nonspecific cancer	9(8.4%)
Medullary cancer	1(1%)
Papillary cancer	3(2.9%)
Cancer in situ	4(3.9%)

As can be seen from table № 2, infiltrative ductal carcinoma is the most common (67%), infiltrative lobular carcinoma (9.4%), least often the medullary type (1%).

In the studied group, all patients revealed comorbidities. At the same time, 80% of patients had hypertensive disease, fatty hepatosis in 66.6%, coronary heart disease in 64.6% chronic cholecystitis in 52.7%, cholelithiasis in 49.2%, chronic bronchitis in 46.2%, varicose veins of the lower extremities in 27.3%, chronic pyelonephritis in 9.4%, chronic hepatitis in 8.4%, obesity in 6.4% of patients, diabetes in 4.7% of patients. A total of 42 associated pathologies were identified. Treatment of comorbidities was carried out after consultation with specialists of the appropriate profile. Combined therapy of patients included: neoadjuvant chemotherapy mainly 4 courses, surgery, adjuvant chemotherapy (4 courses on average) and radiation therapy on a radical program.

The volume of the operation was represented by Radical mastectomy according to Madden in 86 patients (77.4%), Sectoral resection in 6 patients (5.9%), Radical resection in 10 patients (10.5%), RME according to Patty in 5 patients (3, 9%), palliative mastectomy in 2 patients (1.9%), Blokhin operation in 1 patient and simple amputation in 1 patient. The volume of the operation depended on the stage of the disease, the severity of the accompanying pathologies and the compensatory reserves of the body.

Chemotherapy was given to all patients in neoadjuvant and adjuvant regimens. Most often as a first line therapy used FAC circuit, CAF, AC, CMF as the therapy line 2 after failure of therapy 1 line or at relapse of the disease were applied schemes PA (paclitaxel, doxorubicin) Navelbin and platinum drugs capecitabine in tablet form in standard approved dosages. In 48 patients (43.2%) there was a reduction in the dose of chemotherapy drugs, taking into account age and concomitant pathologies by 10% and in 24 by 20%.

Of the patients receiving hormone therapy, there were 63 patients (56.8%), namely, 27 patients (24.3%) received tamoxifen preparation 20 mg per day, aromatase inhibitors (anastrozole 1 tablet daily) received 36 patients (32.4%) in the period from 3 to 5 years.

All patients who had metastases to bones, was appointed bisphosphonate therapy (primarily Zoldron 4 mg per month 1 time per 28 days).

Radiation therapy was also carried out to all patients in an adjuvant mode according to a radical program: 2 Gr, 5 times a week, SOD50 Gr. Patients received radiation therapy taking into account the extent of the spread of the tumor and the volume of the operation.

In 80 patients, an immunohistochemical study was performed.

Table 3. – The distribution of patients depending on the biological subtype of the tumor

Biological tumor subtype	The number of patients (n = 111)
1. Luminal A-subtype	36(44.8%)
2. Luminal B-subtype HER positive	8(10.6%)
3. Luminal B-subtype HER negative	19(23.3%)
4. Triple negative	15(18.1%)
5. Non-HER Positive	2(3.2%)

As can be seen from (table 3), in women of elderly and senile age, the luminal type A was more common in 44.8% of patients, the Luminal B subtype of HER positive in 10.6%, the Lumininal B subtype of HER negative in 23.3%, Triple negative cancer in 18.1% and less likely non-membrane HER positive in 3.2% of patients.

If the patient has an immunohistochemical analysis, the treatment tactics changed depending on the luminal type of the tumor. So with luminal type A with N2–3 lymph node status, with T3–4 tumor size, with a high risk of recurrence, neoadjuvant chemotherapy was followed, followed by surgery, adjuvant chemotherapy and radiation therapy, endocrinotherapy was also added. In the case of Luminal B-subtype HER positive for endocrine therapy, the drug Trastuzumab was added to the adjuvant regimen (in parallel with the initiation of treatment with taxanes according to the scheme within 1 year). In the luminal B-subtype of HER negative, endocrine therapy was performed in all patients, while adjuvant chemotherapy was performed in the presence of risk factors. Triple negative type received treatment according to the standard scheme, but taxanes were preferred. In the non-HER positive type, adjuvant therapy included anthracyclines and taxanes + trastuzumab.

Results and discussion

Elderly patients belong to a heterogeneous group, which has its own characteristics and requires further study. Current treatment approaches are based on clinical studies that include young women with breast cancer without marked comorbidities. The results of these studies cannot be extrapolated to elderly patients [5]. In 2007, the FOCUS study "The Breast Cancer in the Elderly: Optimizing Clinical Guidelines Using Clinico-Pathological and Molecular Data" was launched. The FOCUS database is the largest, most detailed source of information based on a sample of elderly patients with breast cancer. The database includes 3672 patients who, in the period from 1997 to 2004, were diagnosed with breast cancer 65 years of age and older at the time of diagnosis. It has been revealed that the prognosis in women with breast cancer worsens with age, regardless of the molecular tumor subtype and treatment methods. This was confirmed by data from the National Cancer Registry, and

the cohort study "FOCUS" and the study "TEAM" [6]. It is worth noting that recommendations for the treatment of breast cancer in the elderly are contradictory – from radical operations to predominantly conservative therapy [4].

Literature data demonstrate a clear advantage of postoperative radiotherapy in elderly patients. Postoperative radiotherapy improves local control and overall survival. Radiation therapy can be recommended to all patients who are able to tolerate treatment and do not have associated life-threatening diseases. Hormone therapy should be offered to all patients with receptor-positive tumors as an adjunct to surgical treatment or in single mode. The selection of chemotherapy should be thorough and individual for each patient, taking into account all associated diseases and an assessment of possible complications and risks [3].

According to our research, it was revealed that women with a large number of comorbidities have a greater number of postoperative complications. The postoperative period was considered complicated if there was an abundant lymphorrhea, skin necrosis, wound suppuration, complications of therapeutic status, which required treatment. The average indicators of imparai in patients who underwent RTMs on Madden had the following: 28% insignificant, 27%, moderate, 45%.– abundant. The average indicators of lymphorrhea in patients who underwent radical resection of the mammary gland were: in 20% insignificant, in 16%, moderate, in 4%.– abundant. Skin necrosis in both groups of patients met in 24% of cases.

Evaluating the results presented, it should be noted that there is a tendency to an increase in imparai with age and a large percentage after radical surgery (in 90% of patients).

The incidence of skin necrosis also increased with age in patients who underwent Madden Radical Mastectomy. In the appearance of these complications, of course, a large role is played by the degree of vascular lesion by the atherosclerotic process and angiopathy associated with diabetes mellitus.

To calculate the 3- and 5-year survival among elderly and senile patients with breast cancer, the Kaplan-Meier method was used. Takes into account the past tense in months from the time of diagnosis (the beginning of observation) before the onset of death (critical event) as a result of the progression of breast cancer. Patients who died from other causes were censored at the time of death. The data were analyzed using MS Excel. We also studied the results of 5-year survival of elderly patients depending on the extent of surgical intervention. It was found that after radical operations, 60% lived for 5 years, and after radical resection, 56% of patients.

When analyzing the timing of the occurrence of relapse, the average duration of the disease recurrence was 25.2 months. The frequency of metastases and relapses: distant metastases appeared in the period after 63 months after the end of treatment. Most of the lungs and bones were affected. Life expectancy in months averaged 56.68 ± 2.32 months. Three and five year survival rates were 80 and 75%.

Conclusions

1. Breast cancer in elderly and senile patients is most often detected in early stage I–II in 55.2%, in 3.9% it occurs in the stage of cancer in situ.

2. In 66.7% of cases, infiltrative ductal carcinoma occurs. Such histological forms as mucous cancer (7.4%), non-specific type (8.4%) and medullary cancer (1%) were less common.

3. The luminal type A (34.8%) and the luminal type B Her 2 negative (33.3%) are most common in elderly and senile persons. These tumors differed a favorable course and prognosis of the disease. The choice of treatment method depended on the indicators of immunohistochemical research.

4. Comprehensive treatment allows to reduce the frequency of recurrence and distant metastases, increasing the life expectancy of patients. At the same time, the median survival was 56.7 ± 2.3 months, and the 5-year survival rate was 75%.

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