YEVROSIYO PEDIATRIYA AXBOROTNOMASI/ЕВРАЗИЙСКИЙ ВЕСТНИК ПЕДИАТРИИ

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THE EFFECTIVENESS OF PROBIOTICS IN VIOLATION OF THE INTESTINAL MICROBIAL LANDSCAPE IN CHILDREN WITH HIV INFECTION

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Resume

The purpose of our study was to study the effectiveness of the use of a probiotic containing Saccharomyces boulardii. The study was conducted at the clinic of the Republican AIDS Center. An anamnesis, complaints were collected and the necessary set of clinical and laboratory studies was carried out. In the study of the therapeutic efficacy of Enterol, patients were included in the study in the acute period of the disease, in the presence of vivid clinical symptoms. In this case, the appointment of the drug was carried out mainly on the 2nd day and 4-5 days from the moment of admission to the hospital. The drug in the first 3 days of hospitalization was received by 65% of patients, 35% of patients received after 5 days from the start of hospitalization. The results were evaluated by the dynamics of laboratory tests after a single course of therapy.

Keywords: HIV infection, diarrhea, probiotics, enteral

ЭФФЕКТИВНОСТЬ ПРОБИОТИКОВ ПРИ НАРУШЕНИИ МИКРОБНОГО ПЕЙЗАЖА КИШЕЧНИКА У ДЕТЕЙ С ВИЧ-ИНФЕКЦИЕЙ

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Резюме

Целью нашего исследования явилось изучение эффективности использования пробиотика, содержащего Saccharomyces boulardii. Исследование проводилось на базе клиники Республиканского центра по борьбе со СПИДом. Был проведен сбор анамнеза, жалоб и проведен необходимый набор клинико-лабораторных исследований. При исследовании лечебной эффективности Энтерола пациенты включались в исследование в острой период заболевания, при наличии яркой клинической симптоматики. При этом назначении препарата проводили преимущественно на 2 сутки и 4-5 сутки от момента поступления в стационар. Препарат в первые 3 дня госпитализации получали – 65% больных, 35% больных получали после 5 дней от начала госпитализации. Результаты оценивали по динамике лабораторных анализов, после однократного курса терапии.

Ключевые слова: ВИЧ инфекция, диарея, пробиотики, энтерол

OIV INFEKTSIYASI BO'LGAN BOLALARDA ICHAK MIKROBIOLOGIYASI BUZILISHIDA PROBIOTIKLARNING SAMARASI

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Rezyume

Tadqiqotimizning maqsadi Saccharomyces boulardii o'z ichiga olgan probiyotikani qo'llash samaradorligini o'rganish edi. Tadqiqot Respublika OITSga qarshi kurash markazi klinikasida o‘tkazildi. Anamnez, shikoyatlar yig'ilib, kerakli klinik va laboratoriya tadqiqotlari o'tkazildi. Enterolning terapevtik samaradorligini o'rganishda bemorlar kasallikning o'tkir davrida, yorqin klinik belgilar mavjud bo'lganda tadqiqotga kiritilgan. Bunday holda, preparatni tayinlash asosan kasalxonaga yotqizilgan paytdan boshlab 2-kun va 4-5 kun ichida amalga oshirildi. Kasalxonaga yotqizilgan dastlabki 3 kun ichida preparatni bemorlarning 65 foizi qabul qilgan, bemorlarning 35 foizi kasalxonaga yotqizilganidan keyin 5 kundan keyin qabul qilingan. Natijalar bitta terapiya kursidan so'ng laboratoriya testlarining dinamikasi bilan baholandi.

Kalit so'zlar: OIV infektsiyasi, diareya, probiyotiklar, enterol

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Relevance

Preventing the spread of HIV infection occupies a special place among health problems, due to the global increase in HIV infection, the significant socio-economic consequences of the epidemic, the lack of reliable specific prevention tools and significant treatment costs. In today's world, ongoing global processes greatly increase the spread of HIV.

The most important function of normal microflora is its participation in the formation of colonization resistance, which prevents colonization and excessive reproduction on the mucous membranes of pathogenic and opportunistic microorganisms. At the same time, maintaining a stable microecological state is especially relevant for HIV-infected patients, since secondary bacterial and fungal infections caused by opportunistic microflora often cause deaths along with tuberculosis and protozoal infections.

Purpose: We have studied the effectiveness of the use of a probiotic containing Saccharomyces boulardii

Materials and methods

The article presents an analysis of the results of observation of 117 patients aged 1.5 to 18 years who were hospitalized in a specialized clinic for infectious diseases at the Republican AIDS Center. This contingent of patients had a history of diarrhea for more than 1 month, not associated with side effects of antiretroviral therapy, the main complaints at admission were weakness, lethargy, lack of appetite, diarrhea for more than 1 month.

Result and discussion

SACCHAROMYCES BOULARDII are cells of the special yeast Saccharomycetes. The strain *Saccharomyces boulardii* was isolated in Indochina by the French microbiologist Henry Boulard. SACCHAROMYCES BOULARDII has a complex effect on the intestinal microflora. One of its properties is an antimicrobial effect on pathogenic bacteria that cause digestive disorders, as well as an antitoxic effect due to the neutralization of bacterial enterotoxins. Very important is the ability of the drug to increase the local immune defense of the intestine and its enzymatic activity. The probiotic containing SACCHAROMYCES BOULARDII is fundamentally different from other probiotics in that the active substance it contains, the medicinal yeast *Saccharomyces boulardii* , is not destroyed by the acidic environment of the stomach and is genetically resistant to antibiotics. This allows you to prescribe SACCHAROMYCES BOULARDII simultaneously with antibiotic therapy for the prevention of dysbacteriosis. The drug was prescribed according to the treatment regimen, 1 capsule 2 times a day in combination with ARV therapy.

When studying the therapeutic efficacy of Saccharomyces boulardii, patients were included in the study in the acute period of the disease, in the presence of vivid clinical symptoms. In this case, the appointment of the drug was carried out mainly on the 2nd day and 4-5 days from the moment of admission to the hospital. The drug in the first 3 days of hospitalization was received by 65% of patients, 35% of patients received after 5 days from the start of hospitalization. The results were evaluated by the dynamics of laboratory tests after a single course of therapy.

When evaluating the effectiveness of the drug, the following criteria were taken into account: relief of the main symptoms from the gastrointestinal tract (improvement of appetite, restoration of diarrheal syndrome, normalization of coprological and microbiological parameters). During a clinical examination, the patient's condition was determined with the definition of symptoms of intoxication (weakness, lethargy, irritability, and fever).

During treatment in a hospital, a special examination of patients was carried out in the dynamics of hospitalization: in the first days of hospitalization (I analysis) and after 7-10 days (II analysis). Patients were collected biological material (whole blood, feces) for research. All patients were advised to follow a diet, limit stressful situations, lengthen the hours of rest, sleep and stay in the fresh air.

One main group included 60 patients receiving specific antiretroviral therapy and drugs containing Saccharomyces Boulardii, in which a comparison was made of the microbial landscape of the intestine, the stage of HIV infection, the state of cellular immunity, and the effect of drugs containing Saccharomyces Boulardii on microbial parameters was studied in detail over time. landscape of the large intestine and immune cells (CD4+, CD8+). The comparison group consisted of 57 patients who received only specific antiretroviral therapy, with whom the effect of a course of drugs containing Saccharomyces Boulardii on indicators (intestinal microbiocenosis, immune cells) and viral load was compared. In patients of both groups, the severity of disturbances in the intestinal microbial landscape was also taken into account.

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The main and comparison groups of patients were comparable in terms of gender, age, stages of HIV infection, transmission routes, and social status.

After a course of probiotic therapy, patients showed a statistically significant decrease in the clinical manifestations of dysbacteriosis. So, abdominal pain disappeared in 23 patients and significantly decreased in 5 out of 29 patients (p<0.01), bloating and frequent gas discharge stopped or became less disturbing in 21 patients (p<0.05), only in two out of 23 man flatulence phenomena did not stop. At the end of the observation period, loose stools were observed in only one patient out of 19 (p<0.01). At the same time, in 18 (30%) people, a positive dynamics of clinical symptoms was registered two to four days after the start of taking the probiotic. After a course of taking a probiotic, the complete disappearance of such pathological symptoms as dark color of feces and putrid odor of feces was noted in 10 and 9 patients, respectively, and a significant decrease in them in another 6 and 7 people (p<0.05). There was also a trend towards a decrease in the number of patients suffering from constipation and "sheep" stools, although these data are not statistically significant due to a small sample size (p>0.05).

When using a probiotic, undesirable adverse reactions were noted.

Scatological signs	**Main group** (n=60)		**Control group** (n=57)	
	Before treatment	After treatment	Before treatment	After treatment
Liquid	9 (52%)	3(17.6%)	22(62.8%)	2(5.7%)
Liquid-mushy	8(47%)	2(11.7%)	13(37%)	2(5.7%)
Mucus, leukocytes	17(100%)	5(29.4%)	35(100%)	4(11.4%)
red blood cells	12(70.5%)	0	18(51%)	0(0%)
undigested fiber	17(100%)	13(76.4%)	33(94.2%)	2(5.7%)
Residues of fatty foods (saponified fats)	12(70.5%)	10(58%)	29(82.8%)	8(22.8%)
Inside cellular starch	16(94.1%)	13(76.4%)	34(97%)	28(80%)
Remains of protein food (undigested muscle fibers	15(88.2%)	8(47%)	35(100%)	18(51%)

Clinical indicators	**Before treatment**	**After treatment**			**Reliability of differences (R)**
		Normalization	**Improvement**	**Without positive - dynamics**	
Intermittent abdominal pain	29	23(79.3%)	5(17.4%)	1(3.3%)	<0.01
Flatulence	23	11(47.8%)	10(43.5%)	2(8.7%)	<0.05
constipation	eighteen	8(44.4%)	7(38.9%)	3(16.7%)	>0.05
loose stool	nineteen	13(68.4%)	5(26.3%)	1(5.3%)	<0.05
"Sheep" chair	sixteen	7(43.7%)	7(43.7%)	2(12.6)	>0.05
Dark colored stool	17	10(5.9%)	6(35.3%)	1(5.8%)	<0.05
Putrid smell of feces	sixteen	9(56.3%)	7(43.7%)	0	<0.05

According to bacteriological data, the complete disappearance of dysbacteriosis as a result of the use of the probiotic was achieved in 8 (13.3%) patients. Improvement in the composition of the microflora of the large intestine was observed in 48 patients (p<0.01). The number of bifidobacteria recovered to 10^{7} CFU/g in 34 (56.6%) patients, it increased in 7 more (p<0.001). The content of lactose-positive ischirichia normalized in 40 patients (p<0.01). The percentage of lactose-negative Escherichia coli decreased statistically significantly (p<0.05). Hemolytic Escherichia coli in a dilution of 10^{3} - 10^{4} were isolated only in 2 patients (p<0.01).

Under the influence of probitik, a significant decrease in the frequency of isolation of opportunistic microflora was noted (p<0.001). The drug was highly effective in Klebsiella and candidiasis forms of dysbacteriosis.

Only in three (5%) patients, after correction

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with a probiotic, the indicators of the quantitative and qualitative composition of the microflora of the large intestine did not significantly improve.

Analysis of the condition of the microbiocenosis of the large intestine after the end of the probiotic course revealed dysbacteriosis in 52 out of 60 patients with HIV infection, including 42 (70%) - dysbacteriosis of the 1st degree, in 6 (10%) - of the 2nd degree and in 4 (6.6%) %) - 3 degrees; 8 (13.4%) patients had normomicrobiocenosis. The degree of intestinal dysbacteriosis in patients with HIV infection after a course of probiotics is shown in Fig.

Bacteria of the genus	**Study time _**	**Number of individuals (%) in whose intestines bacteria were found in dilution:**				
		$10-10^{2}$	$10^{3}-10^{4}$	$10^{5}-10^{6}$	10^{7}	$>10^{7}$
ETE	Before treatment	17(28.3%)	19(31.6%)	5(8.3%)	18(30%)	1(1.6%)
	After treatment .	0	2(3.3%)	14(23.3%)	40(66.6%)	4(6.6%)
EPE	Before treatment	1(1.6%)	1(1.6%)	3(5%)	1(1.6%)	0
	After treatment .	1(1.6%)	4(6.6%)	1(1.6%)	0	0
EGE	Before treatment	2(3.3%)	4(6.6%)	0	2(3.3%)	4(6.6%)
	After treatment .	2(3.3%)	0	0	0	0
Lacto - bacterium	Before treatment	2(3.3%)	21(35%)	32(53.3%)	5(8.3%)	0
	After treatment .	0	0	22(36.6%)	36(60%)	2(3.3%)
Bifido - bacterium	Before treatment	7(11.6%)	20(33.3%)	29(48.3%)	3(5%)	1(1.6%)
	After treatment .	0	0	19(31.6%)	34(56.6%)	7(11.6%)
Staphylo - coccus aureus	Before treatment	1(1.6%)	0	0	0	0
	After treatment .	0	0	0	0	0
Streptococcus	Before treatment	1(1.6%)	2(3.3%)	5(8.3%)	0	2(3.3%)
	After treatment .	1(1.6%)	1(1.6%)	0	0	0
Klebsiella	Before treatment	1(1.6%)	1(1.6%)	2(3.3%)	0	0
	After treatment .	1(1.6%)	1(1.6%)	0	0	0
Mushrooms Candida	Before treatment	5(8.3%)	9(15%)	0	0	0
	After treatment .	0	0	0	0	0

Comparison of indicators of cellular immunity after correction at different degrees of intestinal dysbacteriosis showed that the number of CD4+ cells and IRI did not significantly differ depending on the degree of dysbacteriosis (Fig. 6).

The frequency of a decrease in the number of CD4+ cells below the norm was also not associated with the degree of dysbacteriosis with its low severity, and only with grade 3 dysbacteriosis, the percentage of patients (75%) with a reduced number of CD4+ cells clearly increased.

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CD4+ cells			Viral load		
Before treatment	After treatment	Reliability of differences	Before treatment	After treatment	Reliability of differences
354±43	570±52	1 P>0.05	70108 ±11938	43205 ±5425	P<0.05

Parameters of cellular immunity	Main subgroup	Control group	Reliability of differences
T-helpers (CD4+)	468±57.5	301±16	P<0.01
IRI	0.5±0.06	0.35±0.03	P<0.05
Glutamate dehydrogenase (ELISA) faeces	4.5±0.06	5.35±0.03	P<0.05

To assess the effect of the probiotic on immunity, the dynamics of the number of CD 4+ cells and IRI at different times after the course of the probiotic was also studied. Immediately after treatment, the parameters of cellular immunity were determined in all 60 patients, after 3 months - in 52, after 6 months - in 48 and after 10 months - in 30.

In 48 patients observed for 6 months after the probiotic course, the number of CD 4+ cells significantly increased after treatment and remained at the same level after 3 months, and after 6 months it decreased to the original number (before the course); IRI did not change significantly during the correction process.

Parameters	Before 1st course	After 1st course	After 6 months After the 1st course (before the 2nd course)	After the 2nd course	3 months after the 2nd course (10 months after the 1st course)	Reliability of differences
Quantity CD4+ cells	402±49.9	500±55.5	397±51.6	568±57.5	468±57.5	P,_2>0.05 Pi-3>0.05 Pm<0.05 P3-4<0.05 PI-5>0.05 P3-5>0.05
IRI	0.5±0.07	0.55±0.08	0.47±0.07	0.6±0.07	0.5±0.06	P>0.05

The reduction in the duration of the main clinical manifestations in patients of the main group contributed to a decrease in the duration of the disease to 5.3+0.8 days versus 7.4+0.8 days in the comparison group . In our further studies, the nature of dysbiotic disorders of the intestinal microflora was evaluated, depending on the duration of the drug intake.

The data obtained indicate that the drug "Enterol" has a beneficial effect, reducing the severity of diarrheal syndrome, and normalizing coprological parameters.

Conclusions

Thus, the results of our studies indicate that the use of Enterol in children contributes to a more favorable clinical course of the disease by reducing the time for normalization of the nature of the stool, reducing the frequency and duration of complications. Thus, the use of Enterol can be considered justified and necessary due to their high efficiency and the absence of side effects.

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THE USE OF SEED EXTRACT "SAPHORA JAPONICA L" AND GRAPES "NIMRANG" FOR THE DETERMINATION OF ANTIGENS OF THE AB0 SYSTEM IN BLOOD TRACES

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Resume

The results of the study showed that extracts of Nimrang grape seeds and Japanese saphora can be used as hemagglutination preparations (anti-A and anti-B phytagglutinin) in detecting A and B antigens in blood stains. In the study of 60 experimental blood spots by the method of absorption of agglutinins in a quantitative modification, phytagglutinin anti-A gave positive results only with antigen A, and phytagglutinin anti-B with antigen B in preserved blood spots B. The use of phytagglutinins is more economical than the use of expensive heteroimmune and isohemagglutinating sera when detecting antigens A and B in blood stains in the study of material evidence.

Keywords: lectins, agglutinogens, agglutinins, blood group, phytagglutinins, antibody titer.

ИСПОЛЬЗОВАНИЕ ЭКСТРАКТА СЕМЯН “SAPHORA JAPONICA L” И ВИНОГРАДА “NIMRANG” ДЛЯ ОПРЕДЕЛЕНИЯ АНТИГЕНОВ СИСТЕМЫ AB0 В СЛЕДАХ КРОВИ

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Резюме

Результаты исследования показали, что экстракты семян винограда Нимранг и сафоры японской могут быть использованы в качестве препаратов гемагглютинации (фитаглютинина анти-А и анти-В) при выявлении антигенов А и В в пятнах крови. При исследовании 60 экспериментальных пятен крови методом абсорбции агглютининов в количественной модификации фитагглютинин анти-А дал положительные результаты только с антигеном А, а фитаглютинин анти-В с антигеном В в сохраненных пятнах крови В. Применение фитагглютининов более экономично, чем применение дорогостоящих гетероиммунных и изогемагглютинирующие сыворотки при выявлении антигенов А и В в пятнах крови при исследовании вещественных доказательств.

Ключевые слова: лектины, агглютиногены, агглютинины, группа крови, фитагглютинины, титр антител.

ҚОН ДОҒЛАРИДА AB0 ТИЗИМИНИНГ АНТИГЕНЛАРИНИ АНИҚЛАШ УЧУН “SAPHORA JAPONICA L” ВА “NIMRANG” УЗУМ УРУҒЛАРИ ЭКСТРАКТИНИ ҚЎЛЛАШ

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Резюме

Тадқиқот натижалари қон доғларида А ва В антигенларни аниқлашда “Nimrang” узум ва “Saphora Japonica L” сафора уруғи экстрактларидан гемагглютинацияловчи препаратлар (фитагглютинин анти-А ва анти-В) сифатида қўлланилиши мумкинлигини кўрсатди. Агглютининлар абсорбцияси миқдорий модификация усулида 60 та эксприментал қон доғларини текшириш жараѐнида фитагглютинин анти-А фақатгина антиген А ва фитагглютинин анти-В эса антиген В сақланган қон доғларида мусбат натижалар берди. Ашѐвий далиллар экспертизасида қон доғларида А ва В антигенларини аниқлашда қиммат нархли гетероиммун ва изогемагглютинацияловчи зардобларни қўлланилишига нисбатан фитагглютининларни қўллаш иқтисодий жиҳатдан анча арзондир.

Калит сўзлар: лектинлар, агглютиногенлар, агглютининлар, қон гуруҳи, фитагглютининлар, антитаналар титри

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Relevance

Examination of traces of blood is the main part of the work of forensic medical examination of physical evidence. It can become an objective confirmation of the crime committed. Traces of blood, or, as they are called "silent witnesses of the crime", contain information about the offender or victim and contribute to the identification of the perpetrators [8,9,14].

Determination of the blood group in spots is mainly carried out by the methods of absorption of agglutinins and absorption-elution. In the presence of a sufficient amount of material, the method of absorption of agglutinins in a quantitative modification is used. With a lack of material, then the absorption-elution reaction is used [16,17.18].

Currently, phytohemagglutinins are widely used to determine the blood group according to the AB0 system, both in liquid form and in its traces. These plant substances, extracted from the seeds of some plants, specifically agglutinate the erythrocytes of some systems, including the AB0 system of the human body [1,2,10].

The use of seed extracts as hemagglutinating preparations (lectins) is more economical than the use of expensive immune and isosera. The promise of these agglutinins is determined not only by the economy and technical simplicity of extracting them from plants, but also by the fact that they can have some positive properties that differ from those of serum agglutinins. According to M.I. Potapov [4,12,13], the intensive development of this non-infectious immunology, which successfully competes with classical serum immunology, especially began to develop after the appearance of the works of K.O. Renconen, W. Boyd, E. Shapleigh [11,15].

Purpose of the study. Obtaining phytagglutinins to erythrocyte groups of the AB0 system from extracts of seeds "Saphora Japonica L" and grapes "Nimrang" growing on the territory of the Republic of Uzbekistan.

Based on the foregoing, we, examining the extract of grape seeds “Nimrang” and Saphora Japonica L., growing on the territory of Uzbekistan, established the presence of lectins with the ability to agglutinate human erythrocytes A, B, O [3,7]. They contained polyphytagglutinins that react with two, three agglutinogens (phytagglutinin anti-A + B, anti-A + B + O) and, with appropriate dilutions in saline or in the serum of the fourth blood group of the ABO system, received monophytagglutinins (for example, in seed extract grape "Nimrang" phytagglutinin anti-A, as well as in the seed extract of Saphora Japonica L phytagglutinin anti-B).

Material and methods

60 blood spots were examined (10 of the first group, 22 of the second group, 22 of the third group, and 6 of the fourth group). Isoantigens (isoagglutinogens), isoantibodies (isoagglutinins) of the studied liquid blood before stain preparation were determined by the Schiff test tube method (agglutination reaction), based on the interaction of antigens and antibodies. After examining liquid blood samples, stains were prepared from them on an indifferent carrier object (clean gauze or white cotton satin fabric).

Blood stain antigens were determined by the method of absorption of agglutinins in a quantitative modification given in manuals and textbooks on forensic medicine [5,6]. For control, clean, unstained samples of the carrier object were constantly stained. With clean scissors, 3 weighings of the carrier object weighing 50 mg were cut out, crushed into small pieces, and placed in agglutination tubes with the inscription “f.a-A”, “α” and “f.a-B”, “β”, indicating the name of phytagglutinins and serum alpha, beta (The reaction with alpha and beta sera was used as a comparative control to the extracts "Nimrang" and "Saphora Japonica L"). Then, 4 samples with a blood stain were prepared in the same way and placed in 4 other test tubes, according to the inscriptions. Separately, in test tubes labeled "f.a-A", "f.a-B", 0.3 ml of Nimrang and Saphora Japonica L extracts were added, and in test tubes labeled "α", "β "- 0.3 ml of serum α and β, previously diluted to a titer of 1:32. Test tubes with stains, objects-carriers and left to control the extract and serum were placed in a refrigerator at a temperature of +5-10C for 18-20 hours. After this time, the results of the study were taken into account by testing the absorbed sera and extract with the corresponding standard erythrocytes. To do this, absorbed by the extract "Nimrang" and serum α are titrated with 1% suspension of standard erythrocytes A, extract "Saphora Japonica L" and serum β - 1% suspension of standard erythrocytes B. At the same time, it is revealed whether the serum and extract retained their initial titers or reduced it , and how much. Serums and extracts absorbed by the stain and the carrier object are carefully aspirated from the material, transferred to test tubes with the same inscriptions, and centrifuged for 10-15 minutes until clear. Accounting for absorption results is established by determining the changes that occur in sera and extracts (anti-A phytagglutinin and anti-B phytagglutinin) after absorption. To accomplish this task, on 7 agglutination test tubes with a wax pencil (blue for β and f.a-B, red for α and f.a-A) make inscriptions: H, 2, 4, 8, 16, 32, 64. One Pasteur pipette into all test tubes, except for the first (with the inscription H), add 2 drops of saline. Then the control sera and extracts left the day before in the refrigerator are thoroughly mixed separately. With the same pipette, add two drops of anti-A phytagglutinin control solution (Nimrang extract) into the first two test tubes (labeled H and 2). The

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contents of the tube labeled 2 are thoroughly mixed with the same pipette by suction and blowing, and 2 drops from it are transferred to the tube labeled 4. From the same tube, also after mixing, 2 drops are transferred to the next tube (labeled 8), and from it to test tube labeled 16, and so on until the end of the row. From tube 64 after mixing, 2 drops are removed. Then, approximately the same pipette is selected according to the diameter of the capillary, with the help of which 1% suspension of standard group A erythrocytes is added to all tubes. The tubes are shaken and centrifuged for 4 minutes at 1000-1500 rpm, after which the tubes are shaken vigorously times with equal force. First, the contents of the test tube are viewed with the naked eye. Visible to the eye agglutination in the form of conglomerates of various sizes in the worksheet is indicated by the sign □. The contents of the remaining tubes are microscopically examined. To do this, the contents of the test tubes are turned over onto glass slides, previously marked according to the inscriptions on the test tubes (starting from a dilution of 1:64). The "+" sign indicates the gluing of all erythrocytes into conglomerates of various sizes. The "+" sign corresponds to small conglomerates against the background of a large number of non-adhered erythrocytes. The designation "-/+" corresponds to small agglutinates of 3-5 glued erythrocytes against the background of the majority of non-glued ones. The "-/+" sign denotes single agglutinates of 2-3 glued erythrocytes (on the 2-3 field of view), and the bulk of non-glued erythrocytes. The "–" sign denotes the complete absence of agglutination. The anti-A phytagglutinin (Nimrang extract) retained as a control may remain unchanged and have a titer of 1:32. In the same way, the titer of the control serum α, β and anti-B phytagglutinin (Saphora Japonica L extract) are checked,

After checking the titer of control serum α and phytagglutinin anti-A, the titer of control serum β and phytagglutinin anti-B is checked in the same way with the addition of 1% suspension of standard group B red blood cells. After that, changes in the titer of phytagglutinin anti-A, phytagglutinin anti -B and sera α, β, which are in interaction with the control subjects-carriers and with a blood stain, that is, with the object of study.

Result and discussion

As a result of the absorption of anti-A phytagglutinin under the influence of 22 blood spots of the second group, in 10 of them a decrease in the titer of this agglutinin by 5-6 steps was observed. In the remaining 12 cases, a decrease in the anti-A phytagglutinin titer by 3-4 steps was observed. The serum titer of this phytagglutinin decreased by 1 step under the influence of six carrier objects. Subject-carriers of the remaining 16 blood spots had no effect on the titer of anti-A phytagglutinin. Under the influence of six blood spots of the AB (IV) group, a decrease in the titer of anti-A phytagglutinin by 3-4 steps was observed. Subject carriers of these bloodstains had no effect on the titer of this anti-A phytagglutinin. 14 blood spots of the third group basically (in 11 cases) had no effect on the titer of anti-A phytagglutinin. Only in three cases there was a decrease in the titer of anti-A phytagglutinin by 1 step.

Also, the absorption of anti-B phytagglutinin under the influence of 14 blood spots of the third group, in 8 of them there was a decrease in the titer of this agglutinin by 5-6 steps. In the remaining 6 cases, a decrease in the anti-B phytagglutinin titer by 3-4 steps was observed. The serum titer of this anti-B phytagglutinin decreased by 1 step under the influence of six carrier subjects. Subject-carriers of the remaining 8 blood spots had no effect on the titer of anti-B phytagglutinin. Under the influence of two blood spots of the AB (IV) group, a decrease in the titer of anti-B phytagglutinin by 5-6 steps was observed. Subject carriers of these bloodstains had no effect on the titer of this anti-B phytagglutinin. 22 blood spots of the second group basically (in 18 cases) had no effect on the titer of anti-B phytagglutinin. Only in four cases was a decrease in the anti-B phytagglutinin titer by 1 step observed.

Parallel control studies of alpha serum showed that the titer of this serum, under the influence of 22 blood spots of the second group, decreased by 3-5 steps. The subject - their carriers did not affect the titer of this serum. Under the influence of two blood stains of AB (IV) group, the alpha serum titer decreased by 3-4 steps, and their carriers did not affect the titer of this serum. The titers of phytagglutinins anti-A, anti-B and serum α, β did not change under the influence of 10 blood stains of the first group and subjects carrying these stains.

When studying the results of absorption of agglutinins β under the influence of 14 blood spots of the third group, a decrease in serum titer β by 3-5 steps was observed. Subject-carriers did not affect the serum titer β. Under the influence of 2 blood spots of the fourth group, the serum β titer decreased by 3-4 steps. The titer of serum α and anti-A phytagglutinin did not change under the influence of 14 blood stains of the third group, 10 blood stains of the first group and their carriers.

Conclusions

Thus, the results of a study of 60 blood stains of the first group ($O_{\alpha\beta}$), second (A_{β}), third (B_{α}) and fourth group (AB0) show the possibility of using anti-A phytagglutinin (Nimrang grape seed extract) and anti-B phytagglutinin (seed extract "Saphora Japonica L") for the determination of antigens A and B in traces of blood. Phytagglutinins anti-A, anti-B have a number of advantages compared to alpha and beta isosera, primarily due to their cost-effectiveness. The use of new ingredients in the

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practice of examination enriches the arsenal of methods for examining material evidence.

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ALLERGIC RHINITIS IN DEVELOPMENTAL PATHOGENESIS SINUSITIS

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Resume

According to the data studied by the authors, it is indicated that various endogenous and exogenous factors, such as allergens, environmental factors, have a significant influence on the occurrence and course of acute sinusitis, and it can also have an infectious, viral, bacterial or fungal etiology. According to the obtained etiological data, complex treatment was carried out taking into account etiological factors and endonasal lavage of the mucous and paranasal sinuses was performed. According to the results of the authors, the main direction in the treatment of acute sinusitis against the background of allergic rhinitis is the elimination of the phenomenon of allergy, the achievement of a stable bactericidal concentration in the nose of the paranasal sinuses, and the improvement of the drainage and ventilation function of the paranasal sinuses.

Key words: allergic rhinitis, course of acute sinusitis, complex treatment, improvement of the drainage and ventilation function of the paranasal sinuses.

АЛЛЕРГИЧЕСКИЙ РИНИТ В ПАТОГЕНЕЗЕ РАЗВИТИЯ СИНУСИТОВ

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Резюме

По изученным данным авторов указывается как основные факторы на возникновение и течение острых синуситов существенное влияние оказывают различные эндогенные и экзогенные факторы, такие как аллергены, факторы окружающей среды, также он может иметь инфекционную, вирусную, бактериальную или грибковую этиологию. По полученным этиологическим данным проведено комплексное лечения с учётом этиологических факторов и проведено эндо назальное промывание слизистого и придаточных пазух носа. По результату авторов основное направление лечения острого синусита на фоне аллергического ринита является устранение явлении аллергии, достижение стойкой бактерицидной концентрации, в носу о околоносовых пазух, улучшения дренажной и вентиляционной функции околоносовых пазух.

Ключевые слова: аллергический ринит, течение острых синуситов, комплексное лечения, улучшения дренажной и вентиляционной функции околоносовых пазух.

SINUSIT RIVOJLANISHI PATOGENEZIDA ALLERGIK RINIT ROLI

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Rezyume

Mualliflar tomonidan o'rganilgan ma'lumotlarga ko'ra, turli xil endogen va ekzogen omillar, masalan, allergenlar, atrof-muhit omillari o'tkir sinusitning paydo bo'lishi va kechishiga sezilarli ta'sir ko'rsatadi va u yuqumli, virusli, bakterial yoki pathogen zambuluqli infeksiyalar etiologiyasiga ega bo'lishi mumkin. Olingan etiologik ma'lumotlarga ko'ra, etiologik omillarni hisobga olgan holda kompleks davolash amalga oshirildi va shilliq va paranasal sinuslarni endonazal yuvish amalga oshirildi. Mualliflarning natijalariga ko'ra, allergik rinit fonida o'tkir sinusitni davolashning asosiy yo'nalishi allergiya fenomenini bartaraf etish, paranasal sinuslarning burunida barqaror bakteritsid kontsentratsiyasiga erishish va yaxshilashdir. paranasal sinuslarning drenaj va ventilyatsiya funktsiyasi.

Kalit so'zlar: allergik rinit, o'tkir sinusitning kechishi, kompleks davolash, paranasal sinuslarning drenaj va ventilyatsiya funktsiyasini yaxshilash.

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Relevance

One of the most common diseases among children is acute sinusitis, the largest number of patients are between the ages of 4 and 15 years, and over the past 10 years, the disease has accounted for 35-37% of all diseases of the upper respiratory tract [1,2,4,5,7] .

Currently, the incidence of acute and chronic rhinosinusitis is high, as the prevention of them and their complications is not fully developed. The occurrence and course of acute sinusitis is significantly influenced by various endogenous and exogenous factors, such as allergens, environmental irritants, and it can also have an infectious, viral, bacterial or fungal etiology.

Acute rhino sinusitis in 2–10% of cases has a viral etiology, and in 10–12% allergic and in 80–88% of cases bacteria cause it. Allergic rhinitis (AR) is one of the first predisposing factors for the development of acute sinusitis. According to a number of authors, 94%-97% of children with AR have inflammation of the paranasal sinuses [3, 7].

In recent years, AR as a problem has become more important due to its high prevalence among the population (from 10% to 40%), especially in the child population. According to official statistics, AR occurs in 9%–25% of children aged 5–8 years.

Inflammation and swelling of the nasal mucosa in children with allergic rhinitis can lead to obstruction of the sinus drainage pathways and subsequent attachment of bacterial flora. Against the background of allergies, infectious and purulent-inflammatory processes proceed rapidly and often give severe complications. Currently, there are various effective methods of therapy for the treatment of children with acute sinusitis against the background of AR [1, 3, and 6], however, despite the success achieved, the frequency of transition to the chronic form does not decrease, and severe complications often occur, which ultimately lead to disability.

Thus, the problem of studying the formation, clinical course, and treatment of acute sinusitis in children with AR is one of the significant aspects in otorhinolaryngology.

Purpose of the study: To study the features of the course and develop new approaches to complex treatment, prediction of acute sinusitis in children with allergic rhinitis.

Material and methods

We observed 46 patients with acute sinusitis against the background of AR, aged from 5 to 18 years. When diagnosing AR and determining its form, ICD-10 and the WHO classification were followed.

Among the examined patients, 29 (63%) were diagnosed with acute sinusitis, 14 (30.4%) sinusitis and 3 (6.6%) hemisinusitis. The complex examination of patients included the collection of anamnesis, endoscopic examination of the ENT organs, endoscopy of the nasal cavity, and radiography of the paranasal sinuses. In order to clarify AR, a clinical and allergological examination was carried out according to medical standards (protocols) for the diagnosis and treatment of patients with allergic diseases and immune system disorders.

Acute Rhino sinusitis (ARS) against the background of AR is an acute inflammation of the mucous membrane of the nasal cavity and par nasal sinuses, for which the presence of two or more symptoms is mandatory, such as nasal congestion, nasal discharge and discharge from the back of the throat, and additional signs of pain or facial pressure and hyposmia or anosmia. Endoscopic picture: edematous nasal mucosa, mucopurulent discharge in the area of the middle and common nasal passage. In children, in addition to difficult nasal breathing, a cough may indicate sinusitis, which occurs when irritated by a mucopurulent discharge of the posterior pharyngeal wall.

The clinical course of acute sinusitis has a number of features: in older children, the disease proceeds as in adults, and in younger children it often has few symptoms, they are worried about periodic difficulty in nasal breathing without sneezing attacks and copious discharge from the nose.

The European position paper on rhino sinusitis and nasal polyps (EPOS) was used to assess the clinical manifestations of the disease.

At the same time, it is proposed to use a visual-tax 10-point scale. A mild degree of the disease corresponds to a scale value from 0 to 3 points, a moderate degree of disease - from 4–7 points, a severe course of more than 7 points.

In the first group, 29 (63%) patients with a mild course (up to 3 points on a scale) complained of mild headache, weakness, hyposmia, nasal congestion, mucopurulent discharge from the nose and nasopharynx, body temperature within 37 C. On radiographs, parietal thickening of the sinus mucosa.

Moderate course in 14 (30.4%) patients (average 5 points), headaches were more intense; pain was noted on palpation in the projection of the affected sinus. Constant nasal congestion, purulent discharge from the nose, weakness,

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hyposmia and body temperature in the aisles of 37-38 C. On x-rays, the sinus is completely darkened, and some of them even had a fluid level in the projection of the affected sinus.

In severe cases, in 3 (6.5%) patients (10 points on a scale), constant headache and pain in the projection of the affected sinus, purulent discharge from the nose and nasopharynx were constant, body temperature was 38 C and above, general weakness, anosmia. On radiographs, total darkening of more than two sinuses. At the same time, these patients had orbital complications in the form of reactive orbital edema. In blood tests, leukocytosis, accelerated ESR.

Treatment of acute OSAR was carried out according to the severity of the disease. At present, one of the effective methods of treating acute sinusitis is nasal lavage with saline solution, and it has become part of the treatment standards of the European and American communities of otorhinolaryngologists. Based on this, in order to eliminate viruses and bacteria from the nasal cavity and paranasal sinuses in the treatment of patients, the nasal cavity was irrigated with saline solution "Dolphin". To do this, the Dolphin saline solution was injected into one-half of the nose, and it was sucked off from the other half with the help of an electric suction. Manipulation was carried out 2 times a day; the course of treatment required 6-8 procedures.

According to the recommendation of EPOS-2012 (European position paper on rhinosinusitis and nasal polyps), topical endonasal corticosteroid therapy remains the main direction in the treatment of sinusitis, especially in patients with a history of allergic rhinitis. The pronounced anti-inflammatory and anti-allergic effect of these drugs leads to a decrease in swelling of the nasal mucosa, restores the patency of the lumen of the fistulas of the paranasal sinuses. Due to its high efficacy in reducing severe inflammation and pain in severe cases of sinusitis, the EPOS (2012) guidelines recommend the use of short course oral corticosteroids. A number of drugs are recommended as a topical intranasal corticosteroid (ICS). One of them is Forinex nasal spray. Unlike other ICS, we did not observe any undesirable manifestations during the use of Forinex (headache, dry nose, nosebleeds) during the course of treatment. During treatment, Forinex spray was injected into each nostril once a day for 4-6 days.

Recently, in the literature [4] the issues of systemic and especially local use of antibiotics in acute sinusitis have been repeatedly discussed. It is strongly not recommended to introduce antibiotic solutions into the par nasal sinuses after their puncture, since they are intended for intramuscular or intravenous administration.

For local use, special forms of antibiotics are recommended, end nasal administration in the form of a spray. Intranasal administration of the drug contributes to its penetration into hard-to-reach areas of the sinus and, the antibiotic directly contacts the micro flora in the focus of inflammation. In our practice, in order to influence the pathogenic micro flora, we used a nasal antibacterial topical spray from the aminoglycoside group, which has a bactericidal effect against bacteria that cause inflammation of the upper respiratory tract.

After washing the nasal cavity, sinulor spray was injected into each nasal passage 3 times a day for 4-6 days.

In the group of sick children with a severe course (3 patients) of the disease, in addition to the above treatment, a suspension of a combined antibacterial drug with clovulonic acid, 10 ml, was additionally used orally. 2 times a day for 5 days.

The combined antibacterial drug, consisting of amoxicillin and clavulanic acid, has a wide spectrum of antibacterial action. This group of drugs is well absorbed from the gastrointestinal tract and is recommended for use in children of any age.

To assess the effectiveness of the therapy, we used indicators on a scale of subjective sensations: first of all, the dynamics of the main symptoms of sinusitis (headache and pain in the projection of the affected sinus, nasal discharge, difficulty in nasal breathing, body temperature), objective data (edema and hyperemia of the nasal mucosa, the presence of purulent discharge from the nose) and the general condition of the patient in dynamics.

Result and discussion

On the 4th day of the therapy, nasal congestion and discharge disappeared in all patients with mild and moderate severity. Only 2 sick children with a severe course still had periodic nasal congestion and mucous discharge. At the end of the course of treatment (6th day of treatment), there was a clear positive trend, objective data, decreased hyperemia and swelling of the nasal mucosa, the nature of the discharge of the nasal cavity.

Only in 3 patients of moderate severity and in 3 patients with severe course, a slight mucosal edema, periodic mucous discharge from the nose, was still observed, although they had purulent discharge before treatment. After treatment, the general condition of 44 patients

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improved significantly: headaches, weakness and hyposmia completely disappeared, breathing through the nose was restored, discharge from the nose and nasopharynx stopped, body temperature returned to normal. At rhinos copy: the mucous membrane of the nasal cavity is pink, the nasal passages are clean. Improvement was achieved in 2 patients, the above symptoms also disappeared, but mucous discharge from the nose was periodically observed, sometimes nasal congestion bothered.

Conclusions

1. Allergic manifestations in the nasal cavity in children have a significant impact on the occurrence of acute sinusitis and the course of the disease. Against the background of allergies, swelling of the mucous membrane of the nasal cavity occurs, while ventilation and mucociliary function of the mucous membrane are disturbed, which leads to accumulation of secretions in the sinuses, which contributes to secondary infection.

2. The main direction of the treatment of acute sinusitis against the background of AR is the elimination of the phenomenon of allergy, the achievement of a stable bactericidal concentration in the nose and paranasal sinuses, and the improvement of the drainage and ventilation function of the paranasal sinuses.

3. Achieving a good and lasting effect in severe diseases can be achieved by using a combined antibacterial drug with clovulonic acid in the form of a suspension. The drug is well tolerated even by young children, which can be recommended. as the drug of choice in children with acute purulent sinusitis due to allergies.

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MORPHOLOGICAL PROPERTIES OF STRUCTURE OF THE RIB –STERNAL COMPLEX, EFFECT TO EXPERIMENTAL DIABETES IN POSTNATAL ONTOGENESIS

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Resume

This article describes the morphological changes in the anatomical structures of the rib-sternal complex in rat pups born from pregnant individuals with experimental diabetes mellitus. The material of the study was 32 mature rats and their offspring. We used informative methods such as histological and histochemical, morphometric. As a result of the study, morphological changes in the bone-cartilaginous-ligamentous structure of the rib-sternal complex in the offspring obtained from pregnant rats with diabetes mellitus in the period of early ontogenesis are presented. It has been established that the negative impact of antenatal diabetes mellitus on the development of the connective tissue formation of the sterno-costal complex.

Keywords: Experimental alloxan diabetes, alloxan, cartilage, chondrocytes, rib – sternal complex, rats.

POSTNATAL ONTOGENEZ DAVRLARIDA TO‘SH -QOVIRG‘A KOMPLEKSINING MORFOLOGIK XUSUSIYATLARIGA EXPERIMENTAL QANDLI DIABETNING TA’SIRI

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Toshkent pediatriya tibbiyot instituti

Rezyume

Ushbu maqolada eksperimental qandli diabet bilan kasallangan homilador kalamushlardan tug’ilgan avlodlarida to’sh-qovurg’a kompleksi anatomik tuzilmalarining morfologik o'zgarishlari tasvirlangan. Tadqiqot materiali 32 ta etuk kalamush va ularning avlodlari edi. Ishda gistologik va gistokimyoviy, morfometrik va informatsion usullardan foydalanilgan. Tadqiqot natijasida erta ontogenez bosqichlarida qandli diabet bilan kasallangan homilador kalamushlardan olingan nasllarda to’sh-qovurg’a kompleksining boylamli tuzulmalari tuzilishidagi morfologik o'zgarishlar to'g'risidagi ma'lumotlar keltirilgan. Antinatal qandli diabetning to’sh-qovurg’a kompleksining biriktiruvchi to'qima shakllanishining rivojlanishiga salbiy ta'siri aniqlandi.

Kalit so'zlar: Eksperimental alloksan diabeti, alloksan, xaftaga, xondrositlar, qovurg'a – to'sh suyagi kompleksi, kalamushlar.

ВЛИЯНИЕ ЭКСПЕРИМЕНТАЛЬНОГО ДИАБЕТА НА МОРФОЛОГИЧЕСКИЕ СВОЙСТВА ГРУДИНО-РЕБЕРНОГО КОМПЛЕКСА В ПОСТНАТАЛЬНОМ ОНТОГЕНЕЗЕ

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Ташкентский педиатрический медицинский институт

Резюме 1

В данной статье описаны морфологические изменения анатомических структур грудино-рѐберного комплекса у крысят, родившихся от беременных особей в экспериментальном сахарном диабете. Материалом исследования являлись 32 половозрелые крысы и их потомства. В работе использовали информативные методы как, гистологические и гистохимические, морфометрические. В результате исследования приведены морфологические изменения костно-хряще-связочной структуры грудино-рѐберного комплекса у потомства полученных от беременных крыс с сахарным диабетом периода раннего онтогенеза. Установлено, негативное влияние антенатального сахарного диабета на развитие соединительно тканного становление грудино-реберного комплекса

Ключевые слова: Экспериментальный аллоксановый диабет, аллоксан, хрящ, хондроциты, реберно-стернальный комплекс, крысы.

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Relevance

Diabetes mellitus is a global problem, and although it is receiving more and more attention, its importance is growing year by year. The number of patients is growing rapidly. While the total number of people with diabetes in the world has increased fivefold since 1980, in 2018, 422 million people suffered from the disease, accounting for almost 10 percent of the world's population. The main reason for the increase in the number of diseases is the change in lifestyle (physical inactivity, poor diet, smoking and alcohol consumption) that began in the middle of the last century and continues to this day. While maintaining the current situation, the number of cases is projected to double by 2030 and account for 20 percent of the world's total population [WHO 21.10.2021]. Diabetes mellitus is a chronic disease that develops when the pancreas does not produce enough insulin or the body is unable to use the insulin it produces effectively. Insulin is a hormone that regulates blood sugar level [2]. A common consequence of uncontrolled diabetes is hyperglycemia or high blood sugar, which over time can cause serious damage to many body systems, especially nerves and blood vessels. Changes in the shape and functional structure of the chest affects the functional state of the organs in the cavity of the cage [2].Congenital and acquired functional state of the organs in the cavity of the cage. Congenital and acquired diseases of the musculoskeletal system account for 94-99% of human lifespan, of which the incidence of congenital malformations is 32:1000. Lack of information on the morphofunctional properties of the rib –thoracic complex leads to serious shortcomings and errors in the prevention and treatment of injuries and deformities in certain areas.

Scientific research in this field is not only scientific but also of practical importance. All of the above allows us to draw conclusions about the problems developed by us and the relevance of the rib-sternal complex due to the prevalence of its deformations and injuries and their morphofunctional substantiation.

The purpose of the work. To study the dynamics of morphological changes in the rib-sternal complex of rats with experimental alloxan diabetes.

Materials and methods

The study was performed on 32 white laboratory rats weighing 150-200 g. The animals were kept in vivariums with food and water according to a standard ration. The animals were divided into two groups for the study. The control group produced 10 rats and the male rats were in a 3: 1 ratio and were injected with 0.5 ml of 0.9% sodium chloride solution once. The study group consisted of 32 rats and the male rat had a 3: 1 ratio. On the fifth day of gestation, experimental diabetes mellitus using an alloxan model was called in rats. A mixture of alloxan 150 mg / kg and distilled water was administered to the experimental group by a single intraperitoneal injection into the abdominal cavity. An increase in blood glucose to approximately 350 mg / dl (Plus Satellite.Russia) confirms hyperglycemia. In our experimental rats, 15 minutes later, the rats were weaned. After 20 minutes, the tails began to turn blue. After 3 hours, thirst and polyuria were observed. The next day there was less convulsions and tachycardia. In a 20- to 24-day follow-up, the study group found that the rats had low mobility, weight loss, long-term wound healing, and hair loss. Of the 22 rats taken for the experiment, 40% died. The study materials were components of the 7-14-21-30-60-day-old thorax of young rats born to mothers with experimental diabetes. The study required histological analysis the rib-sternal complex of the experimental group. The animals were decapitated under general anesthesia using a guillotine knife in accordance with ethical guidelines. For histological examination and incision was made in the rib-sternal complex (IPSUM PATHOLOGY). The samples taken for the experiment were immersed in 10% formalin (Biovitrum). The sample was dried in growing alcohol and histologically processed (STP 120, Thermo Fisher). Then paraffin was poured (Histo Star, Thermo Fisher). The incisions were made in a microtome 4–5 sm thick (HM 325). The prepared pieces were stained with van gizonga, hematoxylin eosin and picrofuxin in addition to Masson and Schiff methods to study connective tissue cells and other elements, the drug was prepared and viewed and photographed under a microscope (SARL Zeiss Microscopy GmbH, Axio Lab.A1 Germany).

Result and discussions

The results of the study showed the presence of many SHIK-positive homogeneous structures around the epiphyses and apophyses of the bone as a result of experimental diabetes mellitus of the rib-sternal complex. These changes occur mainly in the extracellular matrix and are characterized by the presence of atrophically altered cells in a group of chondrocytes that shrivel in many forms.

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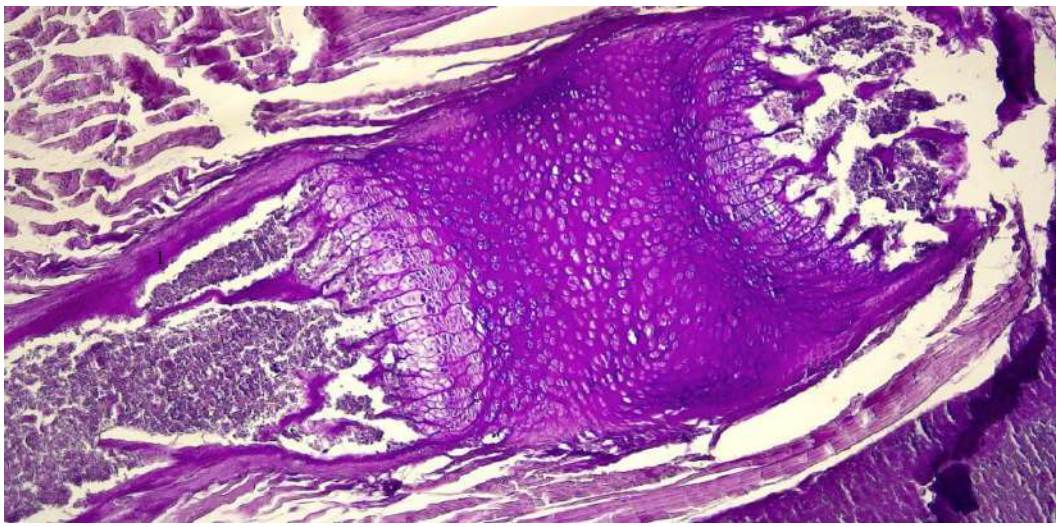

Fig 1. General view of the sternocostal joint. The gap between the joints is almost indistinguishable. Most of the interstitial spaces are filled with homogeneous structures. Around the synovial membranes, foci of mucoid edema are detected. The paint is dyed according to Masson. 10x4.

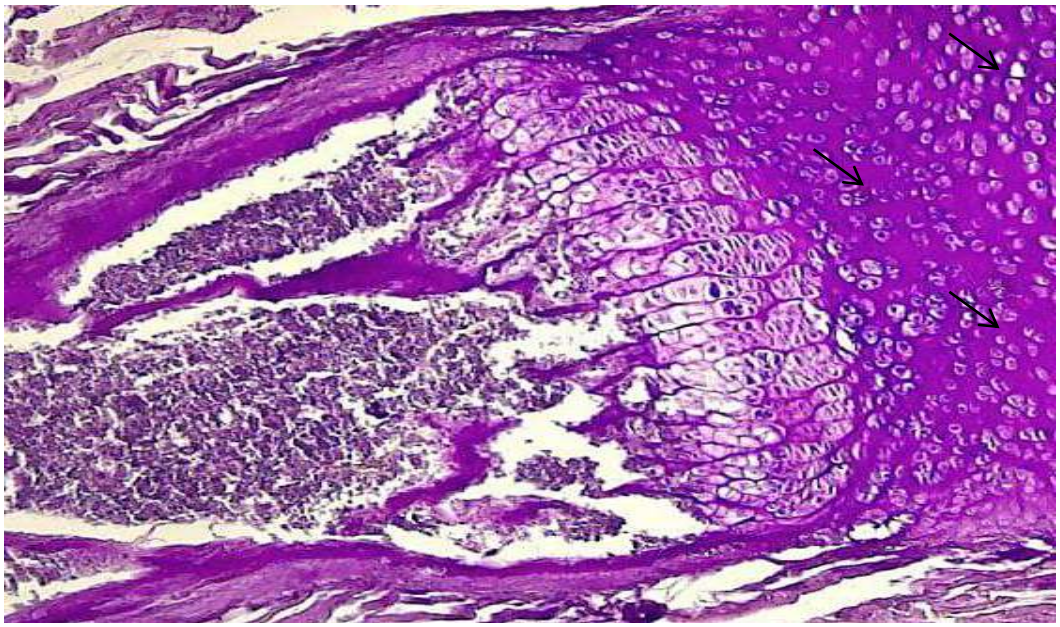

Fig 2. Proximal part of sternum. Massive dark pink staining of the intermediate in cartilage tissue. In the spectrum of chondrocytes, many glycosaminoglycans are stained dark pink. Chondrocytes come in different sizes. Paint Masson. 10x20.

The accumulation of large amounts of chondroitin sulfate in the intercellular space stains massive pink in the extracellular matrix (see Figure 2), a process that is originally described in the normative form.As a result of experimental diabetes, the diffusion process is disrupted, leading to multiple synthesis of sparse fibrous structures and sclerosis of connective tissue. The formation of dystrophic and metabolic calcinosis foci around sclerosing foci is observed, and the foci of small ossifications develop in the form of ossification points (normally these areas consist of a homogeneously stained glycosaminoglycan substrate, the ossification points develop slowly with age) [3].

The fact that the texture of the chondrocyte nucleus varies in size, uneven and deformed appearance indicates a violation of diffusion nutrition, and in experimental diabetes it is clinically determined that it is accompanied by painful syndromes in this joint. (See Figure 3).

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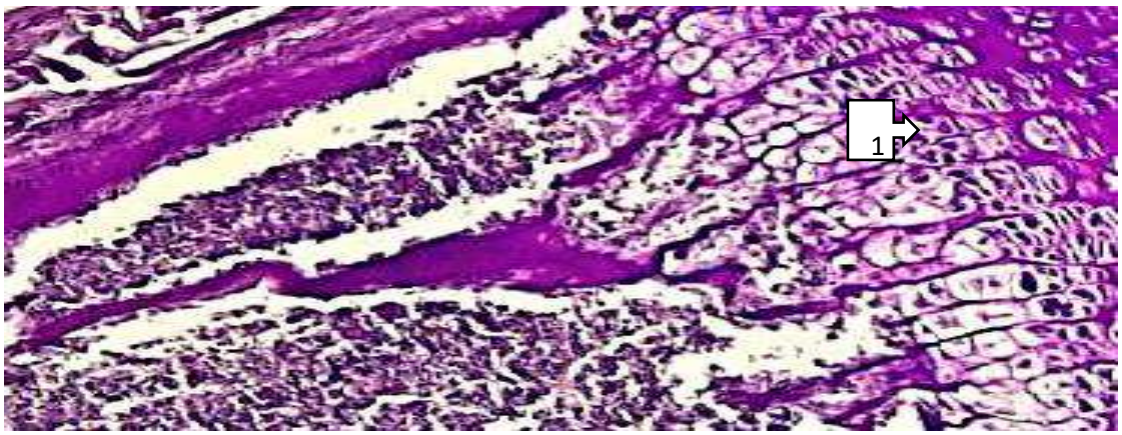

Fig 3. The zone of growth of the epiphysis of the bone is clearly described. The radial chondrocytes in the sequence are of different sizes (1). Paint Masson. Size 10x40.

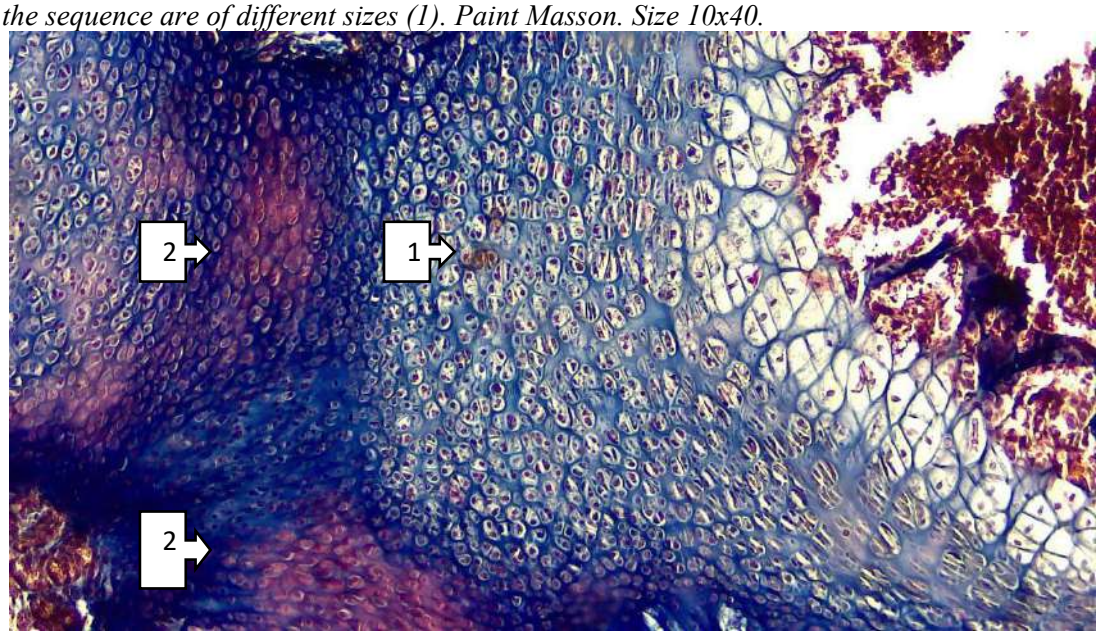

Fig. 4 The proximal part of the sternum is stained with SHIK. Heterogeneous stained furnaces are detected in susceptible areas (1). In focus, the staining around the chondrocytes is of a different appearance, with the areas rich in glycosaminoglycans being stained from pinkish red to dark red (2). The phenomenon of metachromosis dye SHIK. 10x10.

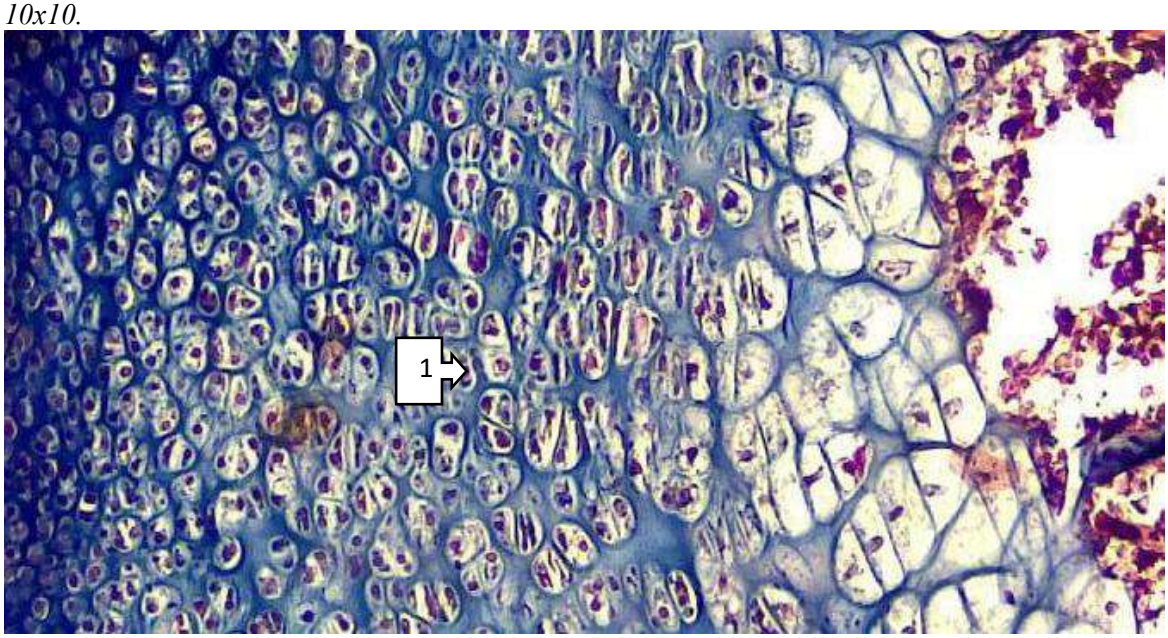

Fig. 5 Shik positive areas are highlighted in red and SHIK negative areas are highlighted in blue. In pathological areas, focal SHIK negative areas areidentified(1). Paint SHIK10x20.

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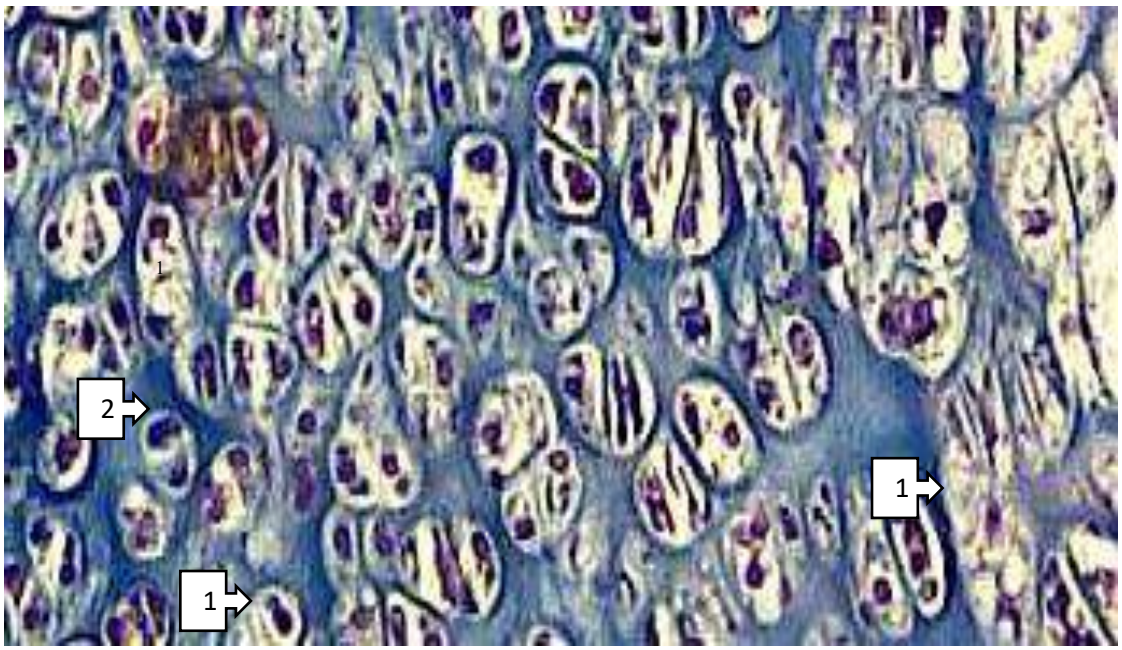

Fig. 6 In suspected geological areas, extracellular substance is stained light blue (1), healthy chondrocytes are detected in areas with dystrophic changes and increased diffusion activity. (2). Paint SHIK 10x40.

This makes it possible to detect multiple foci around heterogeneously stained and initially dystrophically altered chondrocytes in tissue areas made with Shifu staining (see Fig. 4). In areas where diffusion activity around chondrocytes is intact, SHIK stains molecules containing glycol and aminohydroxyl group red, and components containing chondroitin sulfate stain blueIn the same study, the dystrophic changes in the developing areas, the healthy areas in red and the blue color in the proximal part of the sternum allow us to detect changes in the cartilage tissue at an early stage. To further determine the reliability of these changes, the thoracic rib joint leads to the development of the above changes in the paracapsular areas under the influence of diabetes [4].The assumption that insulin may be a fetal growth factor was primarily derived from human pathology. The large babies of diabetic mothers are thought to be the result of increased insulin concentrations in the fetus, while the products of the opposite hormonal environment are small babies, such as in congenital diabetes mellitus [5, 10].

The mean litter size of the control and the diabetic rats did not differ from each other. Fetal body weights were lower in hyperglycaemic fetuses compared to normal fetuses. The mean weight reduction was 24%. The incorporation of thymidine into fetal rib cartilage was determined. Twenty four hours after the injection of thymidine less radioactivity was found in the rib cartilages of hyperglycaemic fetuses compared to normal fetuses [6].

Conducted histological and histochemical studies allow the analysis of the earliest changes in the tissues of the rib-sternal complex in experimental diabetes [8]. Increased response to mucopolysaccharides in areas of defibration of collagen structures appears to be associated with metabolic disruption of tissue elements in the rib-rib complex in experimental diabetes and may lead to the development of deformities in the lower extremities. In rats born with diabetes, the greatest changes occur in the growth zones of the connective tissue, which become significantly thinner and the number of cells in it decreases [7].

In the present study IGF I, IGF II, insulin and proinsulin in a dose-dependent manner enhanced colony formation of isolated chondrocytes from normal and hyperglycaemic fetuses. In response to all four growth factors, cells from normal rats grew better than cells from hyperglycaemic animals [8].

Significant changes in mineral metabolism and bone marrow markers in the advanced generation as a result of the adverse effects of experimental diabetes during pregnancy were found to be more pronounced in the late (30-day) follow-up period [9]. The data obtained show that during pregnancy there is a delay in the development of all components of the growth zones of the sternocleidomastoid complex of rats with alloxan diabetes in the mother. During the observation period, the process of differentiation in the bone trabeculae decreases sharply, and therefore the distance between the growth zones

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of the sternum expands in the distal and proximal directions [10].

In conclusion, based on the above histological sections, under the influence of experimental diabetes leads to disruption of the activity of the rib-thoracic complex in the paracapsular areas and the accumulation of pathological metabolites in the extracellular matrix. This process, in turn, requires a reasonable assumption that increased dystrophic necrotic and dysregenerative activity on the surface of large joints leads to the formation of ankylosis in the joints and osteophytes in the apophyses. So, based on the above morphological examinations, the formation of contractures in clinically small and large joints, and the development of practical recommendations that allow to predict the growth of additional osteophytes in ankylosis and apophyses will allow to develop an algorithm to solve another topical problem of evidence-based medicine.

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SIGNIFICANCE OF DEFINING THE DOUBLE TENDON OF THE LUMBOSIAC MUSCLE IN MRI IN CHILDREN

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Resume

The 2 study involved 50 children in whom the tendon of the lumbosiac muscle was determined on MRI images. Among 87 hip examinations, 21% had lumboiliac tendon duplication. Unilateral duality of PPM was observed in 72% of children. The double tendon of the lumboiliac muscle was recorded in the presence of a fatty layer between two separate tendons at the level of the neck and lesser trochanter of the femur. Knowledge of the presence of two full-fledged tendons of the lumboiliac muscle prevents the incomplete implementation of adequate treatment. So, if there is tension after a distal tenotomy of the lumboiliac muscl1e, this should be a signal for the doctor notifying the presence of a second accessory tendon. Also, with a small size of the tendon of the lumboiliac muscle, the doctor should additionally examine to identify the second additional tendon. In this case, it is advisable to conduct an MRI study.

Key words: lumboiliac tendon, diagnostics, doubling, MRI study

ЗНАЧЕНИЕ ОПРЕДЕЛЕНИЯ ДВОЙНОГО СУХОЖИЛИЯ ПОЯСНИЧНОПОДВЗДОШНОЙ МЫШЦЫ ПРИ МРТ У ДЕТЕЙ

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Резюме

В исследовании приняли участие 50 детей, у которых на МРТ снимках определялось сухожилие пояснично-подвздошной мышцы. Среди 87 исследований тазобедренного сустава в 21% была выявлена сдвоенность сухожилия пояснично-подвздошной мышцы. Односторонняя сдвоенность ППМ отмечалась у 72% детей. Двойное сухожилие пояснично-подвздошной мышцы регистрировалось при наличии жировой прослойки между двумя отдельными сухожилиями на уровне шейки и малого вертела бедренной кости. Знание наличия двух полноценных сухожилий пояснично-подвздошной мышцы предотвращает неполное проведение адекватного лечения. Так, если после проведения дистальной тенотомии пояснично-подвздошной мышцы присутствует натяжение — это должно стать сигналом для врача оповещающим о наличии второго добавочного сухожилия. Также, при малых размерах сухожилия пояснично-подвздошной мышцы врач должен дообследовать на предмет выявления второго добавочного сухожилия. В этом случае целесообразно проведение МРТ исследования.

Ключевые слова: сухожилие пояснично-подвздошной мышцы, диагностика, удвоение, МРТ исследование

BOLALARDA MRTDA ILIOPSOAS MUSHAKLARNING PAYLARI TADQIQOT AHAMIYATI

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Rezyume

Tadqiqotda 50 nafar bola ishtirok etdi, ularda lumboiliak mushaklarning tendonlari MRI tasvirlarida aniqlangan. 87 ta son tekshiruvi orasida 21% lumboiliak tendon duplikatsiyasiga ega. Bolalarning 72 foizida PPM ning bir tomonlama dualligi kuzatildi. Lumboiliak mushakning qo'sh tendoni bo'yin va femurning kichik trokanteri darajasida ikkita alohida tendon o'rtasida yog'li qatlam mavjudligida qayd etilgan. Lumboiliak mushakning ikkita to'liq huquqli tendonlari mavjudligi to'g'risida bilim etarli davolanishni to'liq amalga oshirishga to'sqinlik qiladi. Shunday qilib, agar lumboiliak mushakning distal tenotomiyasidan keyin kuchlanish bo'lsa, bu shifokor uchun ikkinchi yordamchi tendon mavjudligini bildiruvchi signal bo'lishi kerak. Shuningdek, lumboiliak mushak tendonining kichik o'lchami bilan shifokor ikkinchi qo'shimcha tendonni aniqlash uchun qo'shimcha tekshirishi kerak. Bunday holda, MRI tadqiqotini o'tkazish maqsadga muvofiqdir.

Kalit so'zlar: lumboiliak tendon, diagnostika, ikki barobar, MRI tadqiqoti

Актуальность

As we know, the iliopsoas muscle (IPM) is the result of the fusion of the psoas major and iliac muscles. The psoas major (BPM) is a long, spindle-shaped muscle that originates from the transverse processes of the lumbar vertebrae and extends downward and slightly outward, thus passing along the front of the hip joint capsule (HJ) until it is attached to the lesser trochanter of the femur. The iliac muscle (IM) is a flat, triangular muscle that originates from 2/3 of the iliac fossa, the anteroinferior iliac spine, and the anterior superior part of the hip joint capsule. The tendon part of the muscle merges with the BPM tendon. At the same time, a synovial sac separates it from the hip joint capsule and the pubic bone. In children with cerebral palsy and other neuromuscular disorders, the presence of contractures of the PPM and other muscles is a common pathology. This is due to dysfunction, muscle imbalance or muscle spasticity. In these children, a distal release of the RPM tendon is performed as part of the ongoing therapeutic manipulations. The contracture of this muscle leads to an anterior tilt of the pelvis and the development of extension restriction in the hip joint, resulting in a semi-sitting gait. If the PPM contracture is prolonged and severe, this often leads to the development of a dislocation of the femoral head. RTM tenotomy may be performed in combination with an adductor release as part of a medial release, which is used to prevent the development of spastic hip dislocation. It can also be used in combination with a sartorius and/or quadriceps release, which is used as part of an anterior release for hip flexion contractures. RTM tenotomy is also used for open or closed reduction of congenital hip dislocation [8,9].

The PLM tendon is also included in the list of causes of pain in the hip joint and damage to the articular cartilage during hip joint compression [10]. This pathology is called "coxa saltans" or "snappy hip syndrome".

Based on our intraoperative data, we can note the frequent presence of a “double” RPM tendon. This statement is also confirmed by scattered and single literary sources [10, 18-20]. The fat pad between the RPM tendon and the individual PM tendon has previously been identified using MRI in adults [21].

Objective of the Study: Our assumption is that this PLM tendon duplication is fairly common, and the aim of our study was to investigate the anatomical features and clinical significance of this feature.

Material and methods.

We conducted a retrospective analysis of MRI images taken from 2010 to 2018. The study included all children whose MRI scans showed the RPM tendon. Patients in plaster casts and orthopedic splints were excluded due to insufficient ability to visualize the necessary anatomical structures.

The MRI protocol included STIR, coronary T1 and transverse T1 modes; in some cases, an echogradient study was performed in T2 mode. The images were examined by a radiologist. The photographs were taken on a Siemens Magnetom Aera 1.5 tesla apparatus.

We identified 50 patients meeting our criteria (7-15 years, mean 11.9 years). In 13 patients, an MRI study of only one HJ was performed, and in 37 patients on both sides. Thus, 87 TBS were examined. The double tendon of the PPM was recorded in the presence of a fatty layer between two separate tendons at the level of the neck and lesser trochanter of the femur. Examples of transverse and coronal T1 images are shown in Figs. 1 and 2. Fig. 3 shows an MRI image with one PRM tendon.

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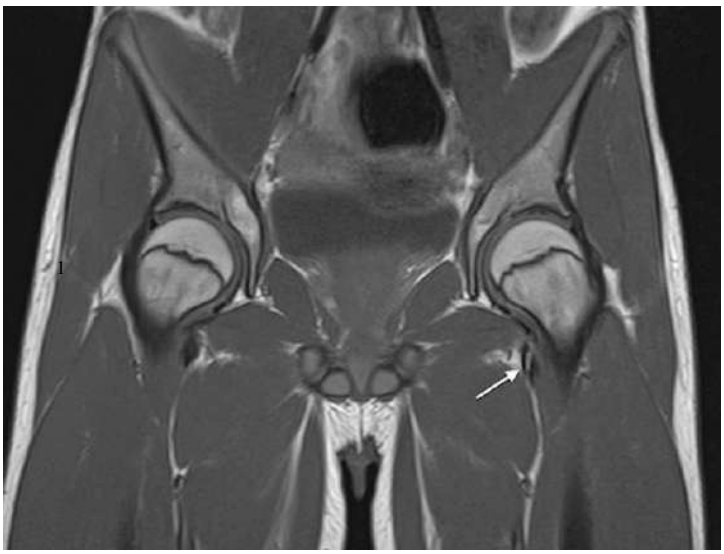

*Fig.1. Coronary X-ray in T1 mode. The arrow shows the duality of the PPM tendon at the level of the femoral neck.*1

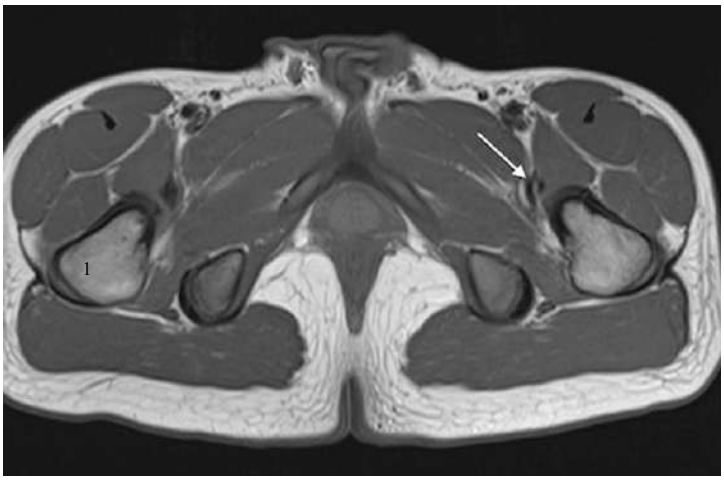

Fig.2. Transverse X-ray in T1 mode of the same patient. The arrow shows the duality of the RPM tendon.

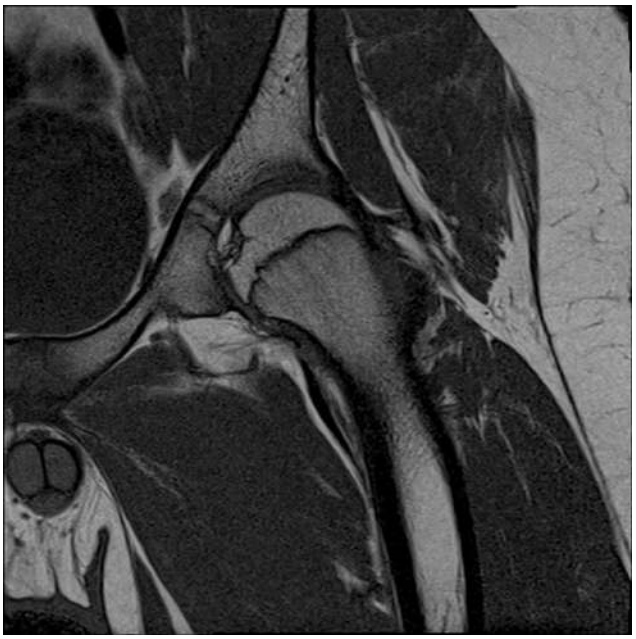

Fig.3. Coronary X-ray in T1 mode. The left hip joint, the presence of one PPM tendon is shown (enlightenment, the fatty layer separating the tendon is not observed).

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Among these 87 HJs, 18 (21%) had a PRM tendon duplication. Unilateral duality of PPM was observed in 13 (72%) children.

Result and discussion

As we know, the PPM tendon is formed by the fusion of those of the psoas major and iliac muscles. Previously, there have been 2 cross-sectional studies of the PRM tendon, which were performed during arthroscopic tenotomy; however, in these works, the duality of PPM was not noted [22, 23]. In another study, which was conducted on 24 cadavers, Tatu et al. noted that the BPM tendon consists of 3 separate structures [17]: the main part is the BPM tendon, additionally originating from the PM, as well as muscle fibers, which are a continuation of the PM and are attached to the lesser trochanter without degeneration into a tendon structure. The accessory tendon of the PM subsequently merges with the tendon of the RPM. Interestingly, in 2 cases there was a complete bifurcation of the BPM tendon, and in 2 cases only partial. Guilin, who conducted a study to identify changes detected by Tatu, out of 42 HJs, found only 1 case with a double tendon of the PPM. Some authors who conducted studies on 53 cadavers revealed that 64% of them had dual PPM [10]. They also noted that 7.5% had 3 distal RPM tendons. These anatomical findings in adults support our findings of dual RPM. Based on these limited studies, it is possible that the PPM tendon develops as a separate anatomical structure. In an MRI study of the hip joint of 20 adults, Polster et al. [21] found a longitudinal cleft of elevated T1 signal in the RPM tendon in 14 of them.

According to Deslandes et al. [11–13], the presence of a double tendon of the PRM is an etiological factor in the development of coxa saltans or snapping hip syndrome. Shu and Safran (18) described the clinical case of an 18-year-old baseball player who underwent arthroscopic release of the distal RPM but had no improvement in clinical signs and pain in the postoperative period. Revision arthroscopy revealed the presence of a double PPM tendon, after which a complete release of the distal part of the tendon of this muscle was performed.

This fact or the so-called anatomical developmental anomaly should be taken into account by all pediatric orthopedists who perform tenotomy of the RPM tendon. Knowledge of the presence of two full-fledged tendons of the PPM prevents the incomplete implementation of adequate treatment. In all cases, an accurate identification of the presence of the PPM dorsal tendon should be carried out. If tension is present after the distal tenotomy of the RPM, this should be a signal to the doctor that there is a second accessory tendon of the RPM. Also, with a small size of the PPM tendon, the doctor should do an additional examination to identify the second accessory tendon. In this case, it is advisable to conduct an MRI study.

The disadvantage of our study is the small number of patients. Although our study proved the presence of duality of the RPM tendon, it was not possible to determine at what level the tendons of the muscles forming the RPM are fused. For an accurate answer to this question, you need to conduct an MRI of the lumbar region and pelvis.

Conclusion

The detection of duality of the RPM tendon is noted in the literature extremely rarely [10,18,21,24]. Many sources note the detection of this anatomical structure at the level between the femoral neck and the lesser trochanter. Knowledge of such deviations in the structure of the PPM tendon is necessary for pediatric orthopedists who perform various manipulations in the area of the hip joint with adductor muscles. The optimal method for diagnosing this developmental anomaly is magnetic resonance imaging.

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RESULTS OF REPEATED RECONSTRUCTIVE SURGERY FOR POSTOPERATIVE INSUFFICIENCY OF ANAL SPHINCTERS IN CHILDREN

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Resume

The results of RCS in 102 patients with POSI, which arose in the form of complications during the correction of ARM in children, were studied. The authors conducted a prospective and retrospective study of surgical correction of complications that caused the occurrence of PNAS. It is proposed to analyze the errors, complications and failures that will contribute to improving the effectiveness of PCOS in children. At the same time, thanks to the optimization of tactics, a comprehensive method of treating PNAS in children, the author managed to improve good and satisfactory results up to 85.5%.

Keywords: postoperative, anal sphincter insufficiency, anorectoplasty, postoperative complication, anorectal malformation.

РЕЗУЛЬТАТЫ ПОВТОРНЫХ РЕКОНСТРУКТИВНЫХ ОПЕРАЦИЙ ПРИ ПОСЛЕОПЕРАЦИОННОЙ НЕДОСТАТОЧНОСТИ АНАЛЬНЫХ СФИНКТЕРОВ У ДЕТЕЙ

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Резюме

Изучены результаты РКС у 102 больных с ПНН, возникшей в виде осложнений при коррекции АРМ у детей. Авторы провели проспективное и ретроспективное исследование хирургической коррекции осложнений, обусловивших возникновение ПНАС. Предлагается проанализировать ошибки, осложнения и неудачи, которые будут способствовать повышению эффективности СПКЯ у детей. В то же время, благодаря оптимизации тактики, комплексному методу лечения ПНАС у детей автору удалось улучшить хорошие и удовлетворительные результаты до 85,5%.

Ключевые слова: послеоперационный период, недостаточность анального сфинктера, аноректальная пластика, послеоперационное осложнение, аноректальная мальформация.

BOLALARDA ANAL SFINKTERLARNING DISFUNKSIYASIDA TAKROR QILGAN REKONSTRUKTIV JARROHLIK DAVOLAR NATIJALARI

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Rezyume

Bolalarda ARMni tuzatish paytida asoratlar ko'rinishida paydo bo'lgan POSI bo'lgan 102 bemorda RCS natijalari o'rganildi. Mualliflar PNAS paydo bo'lishiga sabab bo'lgan asoratlarni jarrohlik tuzatish bo'yicha istiqbolli va retrospektiv tadqiqot o'tkazdilar. Bolalarda PCOS samaradorligini oshirishga yordam beradigan xatolar, asoratlar va muvaffaqiyatsizliklarni tahlil qilish taklif etiladi. Shu bilan birga, taktikani optimallashtirish, bolalarda PNASni davolashning kompleks usuli tufayli muallif yaxshi va qoniqarli natijalarni 85,5% gacha yaxshilashga muvaffaq bo'ldi.

Kalit so'zlar: operatsiyadan keyingi, anal sfinkter etishmovchiligi, anorektoplastika, operatsiyadan keyingi asoratlar, anorektal malformatsiya.

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Relevance

With surgical treatment of ARM, reducing postoperative complications remains an unresolved problem in pediatric surgery [1,4,6,7,9,15]. According to the authors, after the initial radical correction of the ARM, functional disorders of the sphincter apparatus of the rectum occur in 30-60% of patients and are further accompanied by postoperative fecal incontinence (POFI) and chronic constipation (ChC)[2,3,5,8,10,12,13].

At the same time, the main reason for the unsatisfactory results of ARM treatment are diagnostic, tactical and technical errors, which often lead to POSI in children [4,7,11,14], which requires RCS. Therefore, the optimization of surgical tactics, indications and the choice of methods for the correction of POSI in children is an urgent problem in pediatric coloproctology.

The aim of the research was to improve the results of the treatment of POSI in children, based on the study of long-term results of RCS.

Materials and methods

The research is based on the analysis of the treatment results from among 337 initially operated patients with ARM, of which 102 (30.3%) patients with POSI underwent RCS during the period 2007-2021 in the departments of pediatric surgery at the clinical bases of the Department of Pediatric Surgery of TashPMI, SamSMI and BukhMI. The age of patients was: 3-12 months - 7 (6.8%); 1-3 years - 19 (18.6%); 3-6 years-31 (30.3%); 7-14 years - 40 (39.2%); 14-18 years-5 (4.9%). The total number of patients with POSI by age and group is presented in Table 1.

Table 1.

Age and total number of patients with POSI by group.

Ages	Number of patients				Total	
	Control group		Main group			
	Absolutely a number	%	Absolutely a number	%	Absolutely a number	%
Up to 1 year	2	1,9	5	4,9	7	6,8%
1-3 years	6	5,8	13	12,8	19	18,6%
3-6 years old	11	10,7	20	19,6	31	30,3%
7-14 years old	24	23,5	16	15,6	40	39,2%
15-18 years old	4	3,9	1	0,9	5	4,9%
Total	47	47,9	55	52,1	102	100%

According to this table, in the control group, more than 24 patients (23.5%) applied for the correction of POSI at the age of 7-14 years, relatively more at an older age. In the main group, more than 20 (19.6%) were treated by patients aged 3-6 years, more at an early age. Boys made up 57 (55.9%) and girls - 45 (44.1%). Patients with POSI accounted for 41 (40%) living in cities and 61 (60%) in rural areas. PO and SI occurred in boys - 57 (55.9%) and in girls - 45 (44.1%).

Of 102 patients with POSI, various clinical forms were noted: POFI- in 58 (56.8%) and PChC - in 44 (43.2% of patients). All patients with POSI were divided into 2 groups: the first group (control) consisted of 47 patients who had previously undergone surgery with traditional tactics; the second (main) - 55 patients examined and cured according to the developed tactics.

The research carried out: clinical and laboratory, special, radiological, additional and functional research methods, with the aim of a comprehensive assessment of the general somatic and local status of patients. At the same time, the anatomical and functional state of the muscles of the sphincters of the anus and rectum, pelvic organs during surgical correction of POSI in children were studied.

As a retrospective research of information sources, primary medical documentation was used: the medical record of an inpatient and outpatient patient, a journal of operation protocols, extracts from the history of inpatient and outpatient treatment of patients, and data from additional research methods. According to the types and quantities of pathological conditions leading to POSI and the methods of RCS are presented in table 2.

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Table 2.

The number of pathological conditions leading to

№	Types of pathological conditions	The number of patients (%)	RCS methods	The number of RCS (%).
1	Non-strained stenosis of the anus and rectum	22 (21,5)	Elimination of stenosis with reconstruction of the anus and rectum	36 (15,7)
2	Extended stenosis of the anus and rectum	18 (17,6)	APPS. Elimination of extended stenosis with reconstruction of the anus and rectum	32 (14)
3	Scarring of the anus	10 (9,8)	Sigmostoma. Elimination of scarring with reconstruction of the anus	22 (9,6)
4	Scarring Vaginal opening	3 (2,9)	Sigmostoma. Elimination of scarring of the anus with perineal reconstruction	7 (3)
5	Recto-vaginal septum defect	4 (3,9)	Sigmostoma. PSARP. Sphincterolevatoroplasty	9 (4)
6	Gaining "Fake cloaca"	2 (2,0)	Sigmostoma. PSARP. Stages Step-by-step anorectoplasty	11 (4,8)
7	Relapse of rectovaginal fistula	7 (6,8)	Sigmostoma. PSARP. Anorectoplasty by Stoune.	20 (8,7)
8	Relapse of rectovaginal sphincter	3 (2,9)	Transversostoma. Epicystostomy. APPS with liquidation of RRS	15 (6,5)
9	Gaining "anal dystopia"	8 (7,8)	Mixing of the dystopian anus. Sphincterolevatoroplasty with additional reconstruction of the anococcigeo-fractal ligament.	17 (7,4)
10	Extra-sphincter reduction of the colon	6 (5,8)	APPS. With repeated reduction of the colon	10 (4,3)
11	Gaining pararectal fistula with deformity of the anus	2 (2,0)	Elimination of pararectal fistula Sphincteroplasty with reconstruction of the anus	7 (3)
12	Retention of the mucosa of the reduced intestine	6 (5,8)	Excision of the retention of the mucosa of the reduced intestine	12 (5,2)
13	Deformity of the anus with cicatricial degeneration of the external and internal sphincters	13 (10,8)	Transversostoma. APPS.with excision of scars and strengthening of the puborectal loop and coccigeoractal ligament made of synthetic material. Sphincteroplasty	30 (13,2)
	Total	102 (100%)	**102 patients with POSI: 228 RCS=1:2,2**	228 (100%)

According to the table, in both groups, the number of primary radical correction of ARM complicated by PO and SI was more marked in patients with rectovestibular (RVS), high form of ARM without a fistula and with fistulas in the bladder and urethra.

We studied the immediate and long-term results of surgical treatment of POSI in 102 patients with clinical forms: POFI - in 58 (56.8%) and PChC - in 44 (43.2%). To assess the long-term results of surgical correction of POSI, the results of a questionnaire with lists of questions were studied, where complaints about violations of the act of defecation, subjective assessment of the patient's health and quality of life were grouped. The list of questionnaire questions according to the results of the scores, were evaluated: good, satisfactory, unsatisfactory, which are presented in table 3.

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Table 3

Questionnaire questions for the study of long-term results of RCS in patients with POSI

#	Symptoms	Long-term results					
		Good	**Mark**	**Satisfaction**	**Mark**	**Dissatisfaction**	**Mark**
1	Bloating	No	1.0	Periodic	0.5	Constantly	0
2	Difficulty in the act of defecation	No	1.0	For 3 days with difficulty, but independently	0.5	After 4-6 days,	0
3	Incomplete act of defecation	No	1.0	Partly	0.5	not independently, after an enema	0
4	The diameter of the chair corresponds to the diameter of the anus	Yes	1.0	Partially matched, not round	0.5	not at all	0
5	Absence an independent stool and a feeling of urge to defecate	No	1.0	Partly	0.5	Corresponds	0
6	Fecal anointing with no urge to defecate	No	1.0	Partly	0.5	to Yes	0

Note: *The results of POSI treatment at 4-6 points were evaluated - good; 2-3 points - satisfactory; up to 2 points - unsatisfactory.*

At the same time, if the total score is 4-6 points, it is evaluated as a good result of treatment, where rehabilitation treatment is of a preventive nature and dispensary observations are carried out for 6 months. If the total score is 2-3 points, the treatment results are assessed as satisfactory. At the same time, rehabilitation treatment has a curative nature, sometimes requiring surgical correction of the POSI and dispensary observation lasts 1-1.5 years until the full recovery of the POSI. If the total score is below 2, the results of treatment are assessed as unsatisfactory, where PCOS was performed to eliminate POSI. At the same time, rehabilitation treatment was carried out before each repeated correction, for a period of 2-3 years until the complete restoration of the function of the patient's defecation act.

Results and discussion

During the study of catamnestic, as well as clinical examination data of patients with POSI, the causes of complications during the primary correction of ARM, clinically manifested by PNC and PChC, were revealed. The identified causes, errors and complications were diagnostic, tactical, technical and combined. In some cases, the diagnostic errors made led to tactical ones, and they in turn led to technical ones.

We studied the immediate and long-term results of surgical correction in 102 patients with POSI, where different clinical forms were noted: PNC - at 62 (60.8%), PChC - at 40 (39.2%). The total number of patients with clinical forms of POSI by group is presented in table 4.

Table 4

Total number of patients with clinical forms of POSI

Groups	**POFI (n-62)**			**PChC (n-40)**			**Total**
	I-stage	**II- stage**	**III- stage**	**1- stage**	**2- stage**	**3- stage**	
Controling	11 (25,5%)	11 (23,4%)	7 (10%)	8 (17%)	7 (14,8%)	3 (6,3 %)	47 (100%)
Main	16 (29%)	10 (18,2%)	7 (12,7%)	11 (20 %)	9 (16,3%)	2 (3,6%)	55 (100%)
Total	27 (43,5%)	21 (33,8%)	14 (22,5%)	19 (47,5%)	16 (40%)	5 (12,5%)	**102 (100%)**
	62 (60,8 %)			**40 (39,2%)**			

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During surgical correction of POSI, a total of 38 (37.2%) patients had a colostomy, of which 7 (18.4%) were patients at the place of residence. the type and total amount of colostomy in both groups of patients with POSI is presented in table 5.

Table 5

The number and type of colostomy in POSI if children

Groups of patients	Type of colostomy						Total number (%)		
	Cecostoma		Transversostoma		Sigmostoma				
	In Clinic	At the place of residence.	In Clinic	At the place of residence.	In Clinic	At the place of residence.	In Clinic	At the place of residence.	Total (%)
Controling	1	1	1	-	5	6	7	7	14 (36,8%)
Main	-	-	4	1	13	6	17	7	24 (63,2%)
Total %	1	1	5	1	18	12	24	14	38 (100%)
	2 (5,2%)		6 (15,8%)		30 (79%)		38 (100%)		

The distribution of patients by type of colostomy was as follows: cecostoma - in 2 (5.21%) patients; transversostoma – in 6 (15.8%); sigmastoma – in 30 (79%). At the same time, in the main group of patients, POFI colostomy was applied almost 2 times more than in the control group, as preoperative preparation.

In the main group of 55 patients, they were divided into two subgroups. The first subgroup consisted of 47 (72.3%) patients with the use of POFI, against the background of a mistake and complications after primary radical and POFI, leading to POSI. The second subgroup consisted of 18 (27.7%) patients with combined regional defects.

In the first subgroup of patients, against the background of diagnostic, tactical and technical errors and complications, diarrhea was often observed POSI in boys with high forms (Fig.1) and in girls with low ARM (Fig.2).

Fig.1. Frequent types of complications leading to POSI in boys.

Fig.2. Frequent types of complications leading to POSI in girls.

The second subgroup is not related to them, is included ARM with a combination of regional malformations: nerve trunks, plexuses and fibers, a defect in the distal part of the spine and sacrum, anomalies of neighboring organs (Fig.4).

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Fig. 4. POSI against the background of a combination of regional malformations

To the first subgroup, the causes of POSI were intraoperative trauma, unsuccessfully performed POFI and purulent-inflammatory complications due to diagnostic, tactical and technical errors that led to stenosis or dystopia of the anal canal, deformation of the parotid region, retention of the mucosa of the rectum, relapses of the fistula into the urinary or reproductive system in children.

The second subgroup of causes of POSI revealed: violations of the innervation of the pelvic organs due to thickening of the terminal thread and spinal cord – in 4 cases; underdevelopment of the caudal vertebrae (aplasia or agenesis of the sacrum and coccyx) - in 10; underdevelopment of the muscle structures of the sphincter apparatus (aplasia or hypoplasia of the muscle complex) - in 4. These pathologies were found among 18 operated patients in a separate and combined form. In these groups of patients, despite the perfectly performed primary radical anorectoplasty or POFI, there were always POSI with clinical PNA currents.

Thus, after the primary and repeated correction of ARM complications, all postoperative complications differ in terms of timing: early and late. Early complications include:

-*suppuration with divergence of sutures of the surgical wound of the perineum-with* poor preoperative preparation, poor care and management of patients in the postoperative period.

- *necrosis of the stump of the reduced intestine* - as a result of underestimation of anomalies of the arcade vessels, significant intersection of the main large vessels, too much tension or overstretching of mesenteric vessels in APPS leading to a violation of blood supply in the reduced intestine, its necrosis and sometimes pelvic peritonitis in the early postoperative period

Late complications include:

- *stenosis of the anus and rectum, secondary megarectum*-which occurred at a late date, with prolonged inflammatory processes in the area of the perineal wound, chronic ischemia of the wall of the lowered colon and after repeated perineal (PPS) and abdominal-perineal proctoplasty (APPS), which is clinically manifested by chronic constipation.

-*cicatricial deformity of the anus, cicatricial degenerations of the external sphincter and defects of the septum of the perineal organs in the form of an "artificial cloaca"* - which arose after the scarring process due to depletion of blood supply to the wall of the reduced intestine and after repeated IFR due to recurrence of fistulas, which is clinically manifested by fecal incontinence and gas.

-excessive (standing) of the mucosa of the reduced intestine, which arose after various types of proctoplasty and with a technical error, the formation of a neonus. Excess mucous membranes were presented with an insignificant area or a large fragment of it, which clinically proceeds with fecal incontinence

-pararectal fistula, which arose against the background of increased pressure by fecal masses in the rectum or blockage by "stones" of it, during retraction of the reduced intestine, during enema of creating a false stroke. It usually opens far from the anus or buttock area, which is clinically accompanied by fecal incontinence.

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In the main group, we identified anatomical forms of POSI on the basis of complex methods of examination of patients, additionally using ultrasound, MRT and EMG. At the same time, localization of defects, ruptures, relative thinning of width and shortening of length, asymmetries of the internal and external anal sphincter of the locking muscles, as well as physiological disorders of the contractility of the puborectal muscles and the external anal sphincter were determined. These data in diagnostic terms allowed us to assess the degree of damage to the sphincters in PNAS, which allowed us to optimize the choice of tactics and methods of RCS, intraoperative and postoperative measures for the prevention of complications.

In the main group, in tactical terms, to improve blood supply, reduce the scarring process and the rigidity of the perineal tissues, restore the tone of the sphincter muscles of 2-3 degrees, staged rehabilitation treatment was performed before each RCS. At the same time, the rehabilitation treatment complex included electrophoresis with lidase, ESM of the anal sphincter and pelvic floor, SDL in a separate and combination form. During the POSI, initially, a sigmostomy, transversostomy and colostomy were applied as preoperative preparation. These tactical approaches made it possible to improve the clinical results of surgical treatment of POSI by 2 times. These data made it possible to assess the degree of damage to the sphincters in POSI to determine tactics, the choice of methods of repeated surgical correction, intraoperative and postoperative measures for the prevention of complications.

Tactically, in all cases, in order to improve blood supply, reduce the scarring process and the rigidity of the perineal tissues, restore the tone of the sphincter muscles of the 2-3 degree of POSI, staged rehabilitation treatment was performed before each RCS. The complex of rehabilitation treatment included electrophoresis with lidase, ESM of the anal sphincter and pelvic floor, SDL in a separate combination. Sigmostomy, transversostomy and colostomy were applied in 57% of patients as preoperative preparation. This made it possible to improve the results of surgical treatment by 2 times after RCS.

When performing RCS on the anorectal area, anterior and posterior sagittal access was often used, which allowed intraoperatively assessing the damage conditions, eliminating the defect of the anus sphincter and performing plastic surgery under visual control. At the same time, muscle structures, vessels and nerves are minimally injured with a small blood loss; to maximize the use of local tissues to restore the sphincter apparatus; to significantly mobilize the rectum, which made it possible to perform sphincteroplasty and sphincterolevatoroplasty and allowed avoiding excessive APPS.

When conducting RCS in order to reduce POSI, we paid attention to the following: to determine the degree of damage to the sphincters of the anus and rectum; the nature of scar deformation of the anorectal area; the degree of mucosal retention, optimization of indications, choice of method, timing, access routes to surgery. At the same time, to ensure the safety of the sphincter apparatus of the rectum; to understand the subtleties of the topographic and anatomical relationships of the perineal organs; to conduct adequate rehabilitation treatment and restore the physiological state of the newly created neoanus and rectum.

In cases where there was no damage to the sphincters of the anus and rectum, as well as pronounced deformity, treatment was started with rehabilitation measures and only if the POSI was ineffective. In the presence of deformity (stenosis, ectopia, fistulas, defects) and mucosal retention, a direct indication for RCS was determined regardless of the degree of damage to the sphincters.

When conducting RCS in patients with POSI, inherited techniques and intraoperative treatment tactics were based: if possible, when correcting complications, to do without abdominal access; in the preoperative period, to restore blood supply and innervation of the perineum, rehabilitation treatment; in perineal access tends to minimal tissue dissection; accurate removal of the rectum through the center of the retaining muscle complex; to strive to restore the anorectal angle during anorectoplasty, by maintaining balance between the puborectal muscles and anocoxegial ligaments; to ensure the elimination of tension of the reduced intestine in the area of the newly formed neoanus.

It should be noted that RCS in children were performed under more difficult conditions than primary ones, and with fewer opportunities to perform proctoplasty in the classical form, in the presence of gross scarring of perineal tissues and chronic ischemic bowel. Moreover, with each repetition of the RCS, the situation predictably begins to deteriorate. Therefore, we recommend that in difficult situations (defects, scar deformities) with pronounced NAS for the effectiveness of RCS, it is necessary to impose a colostomy, which leads to rehabilitation and complex treatment of anemia and inflammatory diseases of the genitourinary, respiratory and

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cardiovascular systems. This tactical approach significantly improved the results of treatment and reduced the number of POSI in children.

Long-term treatment results were assessed as good, satisfactory and unsatisfactory. When achieving good and satisfactory treatment results, in the main group of patients, the optimal tactical criteria were: optimization of the quality of preoperative diagnosis, preparation of the patient for surgery, timely detection of concomitant anomalies of neighboring organs, professional competence of the surgeon, adequacy of the choice of tactics during corrective operations, high-quality rehabilitation treatment.

In the first subgroup of patients without concomitant pathologies against the background of purulent-inflammatory complications and diagnostic, tactical errors that led to anal canal stenosis and dystopia, perineal deformities, retention of the mucosa of the rectum, relapses of the fistula into the urinary and reproductive systems led to RCS in children. In the second group of patients, in addition to the correction of ARM, against the background of concomitant congenital pathologies with disorders of the innervation of the pelvic organs, good results were not noted, satisfactory in 5 (27.7%) and unsatisfactory in 13 (72.3%) cases.

In the main second subgroup, in 14 (25.5%) patients, due to congenital inferiority of the sphincter apparatus of the rectum against the background of a combination of aplasia, agenesis of the sacrum and coccyx, hypoplasia of the muscle complex and violation of the innervation of the pelvic organs, led to POSI, despite the ideally conducted tactics of radical correction. RCS and long-term staged rehabilitation treatment unsatisfactory results were preserved in the form of fecal and urinary incontinence, to varying degrees and for long periods of 2-3 years.

Thus, as a result of treatment in the main group of patients, we were able to correct the POSI of 85.5% with good and satisfactory results, compared to 60.7% of patients in the control group. Complications decreased by 24.8% and thereby improved the results of the quality of surgical and rehabilitation POSI was 1.5 times less carried out in the main group of patients.

Conclusions

1. The use of ESM anal sphincters and BOS therapy at the stages of surgical correction of POSI allowed to reduce the frequency of RCS by 1.5 times, unsatisfactory results by 2.7 times compared to the control group.

2. Identification of the causes of complications of primary operations, optimization of surgical tactics, full-fledged postoperative rehabilitation allowed to improve by 85.5% good and satisfactory results.

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Abbreviation:
RCS - repeated corrective surgery
POSI- postoperative anal sphincter insufficiency
ARM- anorectal malformation
POFI- postoperative fecal incontinence
PChC- postoperative chronic constipation
APPS - abdominal perineal plastic surgery (БППП)
PSARP- Posterior Sagittal Anorectoplasty

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METASTATIC NEOPLASMS OF THE MAMMARY GLANDS

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Resume

The review of article analyzes literature data on breast cancer. Breast cancer most often develops from the epithelium of the milk ducts. Lobular cancer develops from the epithelium of the lobules of the gland. It accounts for 1-2% of all breast tumors and is characterized by multicentric growth. The right and left mammary glands are affected equally often. Bilateral lesions of the mammary glands occur in 13% of cases. The tumor of the second gland often has a metastatic character. There are nodular and diffuse forms of breast cancer.

Key words: breast cancer, tumors, ultrasound, multicentric growth.

МЕТАСТАТИЧЕСКИЕ НОВООБРАЗОВАНИЯ МОЛОЧНЫХ ЖЕЛЕЗ

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Резюме

В обзорной статье анализируются данные литературы по раку молочной железы. Рак молочной железы чаще всего развивается из эпителия млечных протоков. Дольковый рак развивается из эпителия долек железы. Он составляет 1—2 % всех опухолей молочной железы и характеризуется мультицентрическим ростом. Правая и левая молочные железы поражаются одинаково часто. Двустороннее поражение молочных желез встречается в 13% наблюдений. Опухоль второй железы нередко имеет метастатический характер. Различают узловую и диффузную формы рака молочной железы.

Ключевые слова: рак молочной железы, опухоли, ультразвуковое исследование, мультицентрический рост.

KO'KRAK BEZINING METASTATİK NEOPLAZMASI

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Rezyume

Ko'rib chiqish maqolasida ko'krak saratoni bo'yicha adabiyot ma'lumotlari tahlil qilinadi. Ko'krak saratoni ko'pincha sut yo'llarining epiteliyasidan rivojlanadi. Lobulyar saraton bez lobulalari epiteliyasidan rivojlanadi. U barcha ko'krak o'smalarining 1-2% ni tashkil qiladi va ko'p markazli o'sish bilan tavsiflanadi. O'ng va chap sut bezlari teng darajada tez-tez ta'sirlanadi. Sut bezlarining ikki tomonlama lezyonlari 13% hollarda uchraydi. Ikkinchi bezning shishi ko'pincha metastatik xususiyatga ega. Ko'krak bezi saratonining nodulyar va diffuz shakllari mavjud.

Kalit so'zlar: ko'krak saratoni, o'smalar, ultratovush, ko'p markazli o'sish.

Relevance

Breast cancer is a malignant tumor that usually develops from the epithelium of the milk ducts (80% of cases) and epithelial cells of the lobules of the gland. In recent decades, the incidence of breast cancer in women has been steadily increasing in recent decades and occupies one of the first places among the malignant neoplasms [2,5]. The incidence of

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disease in women living in large cities is higher than that of women living in rural areas.

In Russia, more than 34,000 new cases of cancer are diagnosed each year, and there is a sharp decrease in the age of patients. The first peak of incidence occurs during the reproductive period from 30 to 40 years old. In the later years of life, an increase in the incidence of breast cancer is noted, in particular, if 180 cases are recorded at the age of 50, then after 65 years - 250 cases per 100,000 women [9].

It is now generally accepted that breast cancer occurs 3-5 times more often against the background of benign diseases of the mammary glands and 30-40 times more often with nodular forms of mastopathy with signs of proliferation of the epithelium of the mammary glands. Due to this, it is obvious that in recent years, interest in benign diseases has increased significantly, and reducing the incidence of mastopathy is a real way to reduce the incidence of breast cancer.

RISK FACTORS OF BC. The reason that contributes to the development of breast cancer is a combination of many factors (risk factors):

• the presence of breast cancer in direct relatives;

• early menarche - the first menstrual bleeding;

• late onset of menopause;

• late first childbirth (after 30 years), women who did not give birth;

• fibrocystic mastopathy (DFCM, FCM, nodular mastopathy, etc.) in the presence of areas of atypical hyperplasia of the epithelium of the mammary glands;

• cancer in anamnesis;

• genetic changes - mutation of genes BRCA-1, BRCA-2. BRCA-1 predisposes to breast and ovarian cancer. BRCA-2 is only related to the risk of breast cancer. Both genes BRCA-1 and BRCA-2 in 75% of cases are related to hereditary breast cancer.

• As well as an increase in estrogenic activity, excessive synthesis of sex hormones or their introduction into the body for medical reasons stimulates the proliferation of the epithelium of the mammary glands, contributes to the development of its atypia. Chronic inflammatory processes in the female genital organs, postpartum mastitis, leading to the cessation of lactation, disorders of the menstrual-ovarian function - can be considered as predisposing factors.

Breast cancer most often develops from the epithelium of the milk ducts. Lobular cancer develops from the epithelium of the lobules of the gland. It accounts for 1–2% of all breast tumors and is characterized by multicentric growth [8]. The right and left mammary glands are affected equally often. Bilateral lesions of the mammary glands occur in 13% of cases. The tumor of the second gland often has a metastatic character. There are nodular and diffuse forms of breast cancer. The nodular form is mainly observed, in which the tumor is most often localized in the upper outer quadrant (47-60% of patients), upper inner quadrant (12%), lower inner (6%), lower outer (10%) and central (12% of patients).

In most cases, in the diffuse form, the tumor node in the gland is not palpable. The tumor is detected as an infiltrate without clear boundaries, which can occupy a significant part of the breast. The diffuse form is observed in edematous-infiltrative, inflammatory (like in mastitis, erysipelatous) and shell cancer. Diffuse forms of cancer are characterized by rapid growth and early metastasis. The prognosis is extremely unfavorable.

Great value for the treatment of cancer, the course and outcome of the disease is the presence or absence of estrogen receptors in the tumor tissue (ERc). Examination of the tissue of the removed tumor for the presence of receptors is mandatory. ERc-positive tumors are more often found in menopausal patients. ERc-negative tumors are more often detected in premenopausal women.

Metastasis of breast cancer occurs mainly by lymphogenous and hematogenous routes, most often in the bones, lungs, and pleura.

In determining the stage of the disease, the size of the tumor and the prevalence of the process (T-tumor), metastases to regional lymph nodes (N-nodes) and the presence of distant metastases (M-metastasis) are taken into account. The degree of T and N are specified in the histological examination of the removed tumor and lymph nodes. In our country, a clinical and anatomical classification of breast cancer has been adopted with the allocation of four stages of the spread of the tumor process, which correspond to specific combinations of TNM of the International Classification, it is convenient in practice, since it provides for certain therapeutic measures for each stage of the disease.

In the preclinical stage, tumor detection is possible with a preventive dispensary examination, including an examination by a mammologist, ultrasound, and mammography. At the same time, tumors or accumulations of microcalcifications with a diameter that cannot be detected by palpation are detected [10,11].

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In most cases, a woman herself discovers a tumor in the mammary gland, which makes her see a doctor. Sometimes it happens unexpectedly for the patient during a preventive examination or visiting a doctor about another disease. During this period, the tumor usually has a diameter of 2-5 cm.

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NON-HODGKIN'S LYMPHOMA IN CHILDREN

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Resume

The article presents cytological study of 122 (96.8%) patients. The retrospective analysis of case histories at 122 patients with verified NHL, the accounting and reporting documentation on registration of malignant neoplasms, form 7-SSV from 2011 to 2015, epidemiological analysis, molecular genetical, immunologic and morpho-chemical, cytomorphological and morphogenetic research methods were carried out.

The results of study showed the necessity of morphological and immunological studies in order to make correct diagnosis which has the various variants of T- and B-cell NHL. The features of clinical NHL course at children was shown and researched according to the cytological, histological and immunological characteristics of tumor.

Key words: cytology, NHL, children, malignant tumors.

BOLALARDA NON-HODGKIN NING LENFOMA

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Rezyume

Maqolada 122 (96,8%) bemorning sitologik ma'lumotlari keltirilgan. NHL bilan tasdiqlangan 122 bemorning kasallik tarixini retrospektiv tahlil qilish, malign neoplazmalarni ro'yxatga olish uchun buxgalteriya hisobi va hisobot hujjatlari - 2011-2015 yillar uchun 7-SSV shakli, epidemiologik tahlil, molekulyar genetik, immunomorfokimyoviy, sitomorfologik va morfogenetik tadqiqot usullari.

Tadqiqot natijalari T- va B hujayrali NHL ning mavjud turli xil variantlarini to'g'ri tashxislash uchun morfologik va immunologik tadqiqotlar zarurligini ko'rsatdi. Bolalarda NHL klinik kursining xususiyatlari o'simtaning sitologik, gistologik va immunologik xususiyatlariga qarab ko'rsatiladi va o'rganiladi.

Kalit so'zlar: Sitologiya, NHL, bolalar, xavfli o'smalar.

НЕХОДЖКИНСКАЯ ЛИМФОМА У ДЕТЕЙ

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Резюме

В статье представлены цитологические данные 122 (96,8%) больных. Проведен ретроспективный анализ историй болезни 122 больных с верифицированным НХЛ, учетно-отчетная документация по регистрации злокачественных новообразований - форма 7-SSV за 2011-2015гг., эпидемиологический анализ, молекулярно-генетический, иммуноморфохимический, цитоморфологический и морфогенетический методы исследования.

Результаты исследования показали необходимость проведения морфологического и иммунологических исследований с целью правильной постановки диагноза существующих различных вариантов Т- и В-клеточных НХЛ. Показаны и изучены особенности клинического течения НХЛ у детей в зависимости от цитологических, гистологических и иммунологических характеристик опухоли.

Ключевые слова: Цитология, НХЛ, дети, злокачественные образования.

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Relevance

Historically, the process of study malignant lymphomas took place long ago, when in 1871 Billrot offered to call the term "malignant lymphoma»[1,2]. Afterwards, with development of microscopy the widely spread had the works by N.B.Shustov and H.H.Vlados, later by Robb-Smith, who researched cellular substrate of Non-Hodgkin lymphoma (NHL) and revealed changes in lymphatic nodes at cellular structure; the next works had definitions of lymphomas into follicular, lymphocytic, lymphoblast, and, also, reticular round and cellular sarcoma from 2011 to 2015, the rough index of morbidity was 0,4$^0/_{000}$ in 2011, and, in 2015 it was 0,7$^0/_{000}$[4]. For all that, to the present there is no information on prevalence of disease by territorial, age and sex, which may be connected with absence of children oncology departments in many regional oncological offices and problems on differentiated diagnosis of diseases with other hemoblastosis[5,6]. In childhood there are more often diagnosed lymphoblast lymphomas from cells of precursors LBL, and from mature cellular NHL was lymphoma of Berkitt (LB), anaplastic large and cellular lymphoma (ALCL) and diffuse B – large and cellular lymphoma DBLCL [7].

The classification of WHO from 2008 classification based on immunological, cytogenetical, molecular and biological changes of tissue, NHL, clinical picture, is used now. For all that more than 60 variants of NHL, and, the more typical for children are: T- and B - lymphoblast lymphomas (T- and B-LBL), lymphoma by Berkitt (LB), diffuse B – large and cellular lymphoma (DBLCL), primary mediastinum B – large and cellular lymphoma (MBLCL) and anaplastic large cellular lymphoma (ALCL). As well there are lymphomas which occur rarely (MALT, NK/T) [5,7]. Thus the taken analysis shows the actuality of diagnosis and treatment NHL at children.

The aim of study. To research cytological parameters different variants of NHL at children.

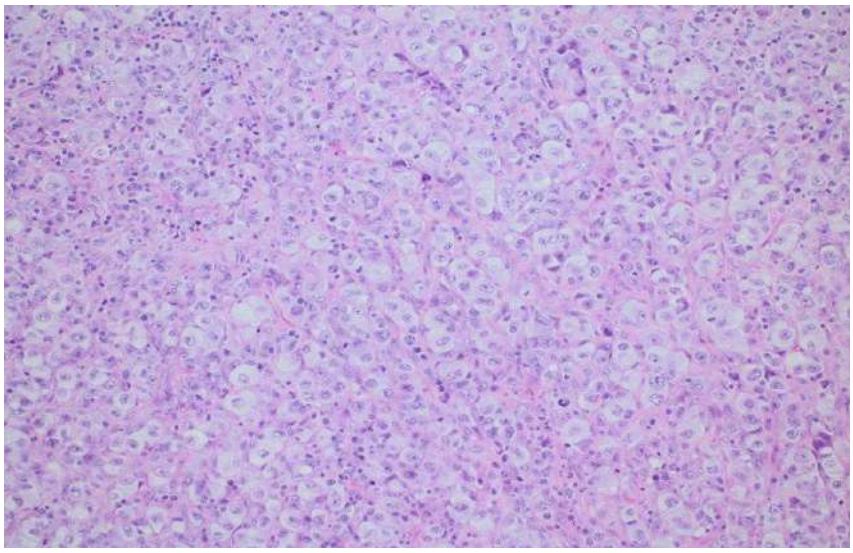
Materials and methods

Coming from classification with the purpose of determination lipoma variant the cytological data of 122 (96,8%) patients were examined. The retrospective analysis of 122 patients with verified NHL, the accounting and reporting documentation on registration of malignant neoplasms, form 7-SSV from 2011 to 2015, epidemiological analysis, molecular genetical, immune and morpho-chemical, cytomorphological and morphogenetic research methods were carried out.

Results and discussion

The results of study showed that the number of T-B- and LBL patients were 41 (32,5%), who cytologically revealed blast cells of lymphoid nature which had different sizes with high nuclear cytoplasmic index,

The location of nuclei was central and eccentric, by shape they were round or oval with basophil cytoplasm and netting chromatin of nucleus. By FAB classification according to construction and shape they were looked like lymphoblasts of type L-1 – 75% or L-2 – 25% (pictures 1 and 2).



Picture 1. Cytological study tumor focus at LBL. Lymphoblast type L-1.color by Romanovsy-Gimze.

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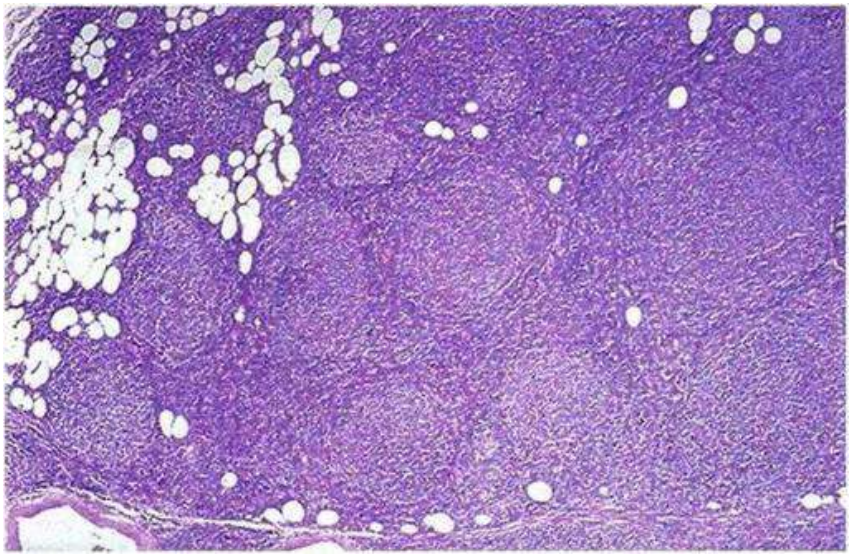
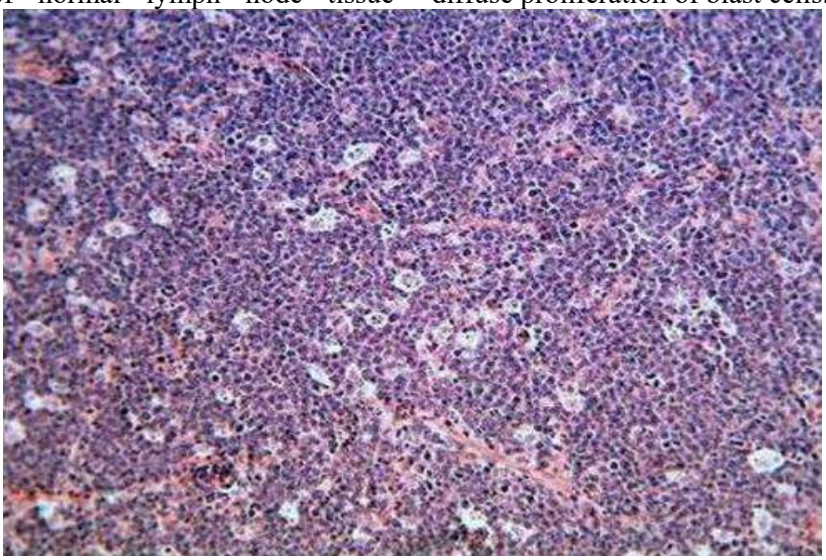


Picture 2. Cytological study tumor focus at LBL.lymphoblast type L-2, color by Romanovsky-Gimze.

At 11 (26,8%) patients at histological study the disorder of normal lymph node tissue structure were damaged because of developing diffuse proliferation of blast cells.



Picture 3. Histological examination of patients with LBL., color with hemotoxin eosin, ув. x500

The tumor substrate was presented by lymphoblasts of different sizes from little to middle ones with high nuclear – plasmatic index (NPI). At presence many macrophages in histological section the picture of “starry sky can be seen» (pict. 3)

The analysis of cytological punctures for damaged organs or smears at 29 (23,0%) patients with LB showed the presence of lymphoblasts type L-3, which had middle sizes and high NCI. Cytoplasm had intensive and basophile color with presence vacuoles and diffuse and chromatized nucleus. At pathogenetic study 33 (26,1%) patients with DBLCL revealed the giant cells the same as ALCL, moreover they were characterized with considerable atypification and polymorphynism, the cytoplasm had thin border with typical basophile color, for all that in tumor cells it was more expressed, in some cells there were marked more than two nuclei with little dispersed chromatin, sometimes the smears had cells looked like as Hodgkin ones, which had big nuclei. Histological examination patients with DBCL was carried out at 26 (78,7%) persons, where the central blast type was 19 (57,5%), for all that, there was marked the expressed polymorphynism of cells with narrow basophile cytoplasm and oval nuclei and delicate chromatin. The number of mitosis was little, there was alone apoptosis.

The immune blast variant DVCL occurred at 2 (6,0%) cases, it was characterized with presence large cells and expressed basophile cytoplasm, round nuclei and nucleoli in the center. The expressed cellular polymorphynism being presented with immune blasts were marked. T-histocyte

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variant was verified at 3 (9,0%) which was characterized by T-cellular and histocyte infiltration and little number of tumor cells of various size and nucleoli presence. The anaplastic variant of tumor, the verification of that was carried out on the base of immunologic researches, occurred at 2 (16,6%) patients, the histological picture was characterized with presence large and giant cells surrounded with basal cytoplasm and pleomorphic nuclei and profuse tumor infiltration of sinuses. The cytogenetic study patients with ALCL was 12 (9,5%), it was characterized with presence of atypicalness and polymorphinism of cells having various nuclear sizes from middle to large ones, different shape: round, horse shoe-shape, paddle-shape and eccentrically located thin disperce chromatin, many nucleoli of different calibres, expressed cytoplasm with light blue color, in some cases with zones of near nuclear lumen, in 18% cases were Hodgkin and Berezovsky-Stenberge' cells. The ALCL variant oft histological study at 11 (91,6%) patients had different variants: little cellular were 2 (16,6%), which was mainly characterized with uninuclear cells, middle uninuclear cells, polymorphic nuclear with condensed chromatin. Besides with little cellular 4 (33,3%) patients had lympho-histiocyte one, for all that the typical was the presence of cells with profuse eosinophil infiltration, round nucleus alteration of many tumor cells and surrounding ones. 5 (41,6%) patients determined classical type of tumor, moreover the cellular picture was fully absent on the account of diffuse infiltration with tumor cells, in some cases there was marked their accumulation within sinuses or in paracortical layer. The tumor cells were presented with large different with nuclear shapes (horse-shoe shaped, paddle) with eccentric located thin disperce chromatin, many nucleoli, moderately expressed light cytoplasm.

Conclusions

Thus, the morphological picture of ALCL was characterized with partial or full disappearance of normal tissue structure, it has diffuse type of growth, particularly, it was presented with accumulation of tumor cells located para-cortically in sinuses with, focus of necrosis and active mitosis. It was determined the necessity of carry out morphological and immunologic researches with the aim to make correct diagnosis of different T-and B-cellular NHL. There were shown and researched features of NHL clinical course at children depending on cytological, histological and immunologic characteristics of tumor.

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Abbreviations

NHL – Non-Hodgkin lymphoma
WHO- World health organization
HL - Hodgkin lymphoma
LBL - Lymphoblast lymphoma
ALCL- Anaplastic large cellular lymphoma
DBLCL-Diffuse B-large cellular lymphoma
DBCL- Diffuse B- cellular lymphoma
LB - Lymphoma of Berkitt
NCI - Nuclear cytoplasmatic index

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ASSESSMENT OF OLFACTORY FUNCTION IN THE STUDY GROUPS AND THEIR ROLE IN THE PROGRESSION OF THE DISEASE

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Resume

The article presents the results of observation of 213 patients with PD, including 90 (42.25%) women, 123 (57.75%) men, whose mean age was 46.17±0.63 years. Patients with PD were selected in accordance with the international criteria of the British brain bank "Parkinson's Disease Society Brain Bank". Patients underwent CT or MRI of the brain. Olfactory disturbances were studied using the Sniffin Stix Test (SST) by Burchard (Hamburg, Germany). All patients underwent examination of the ENT organs. The results obtained indicate that the presence of hyposmia in patients with early onset of PD is an important biomarker of the latent neurodegenerative process of the "Parkinsonian" type and, therefore, the risk of future development of PD.

Key words: Parkinson's disease, olfactory function, brain, hyposmia, anosmia.

ОЦЕНКА ОБОНЯТЕЛЬНОЙ ФУНКЦИИ В ОБСЛЕДОВАННЫХ ГРУППАХ И ИХ РОЛЬ В ПРОГРЕССИРОВАНИИ ЗАБОЛЕВАНИЯ

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Резюме

В статье представлены результаты наблюдения 213 больных с БП из них 90(42,25%) женщин, 123(57,75%) мужчин, средний возраст которых составил 46,17±0,63 лет. Пациенты с БП были отобраны в соответствии с международными критериями Британского банка мозга "Parkinson's Disease Society Brain Bank". Больным производились КТ или МРТ головного мозга. Обонятельные нарушения исследовались с помощью Сниффин Стикс теста (ССТ) фирмы «Бюрхард» (Гамбург, Германия). Всем больным производился осмотр ЛОР-органов. Полученные результаты свидетельствуют, что наличие гипосмии у пациентов с ранним дебютом БП, важным биомаркером, скрытого нейродегенеративного процесса «паркинсонического» типа и, следовательно, риска будущего развития БП.

Ключевые слова: Болезнь Паркинсона, обонятельная функция, головной мозг, гипосмия, аносмия.

O'QIDAGI GURUHLARDA HID BILISH FUNKSIYASINI BAHOLANISH VA KASALLIKNING PROGRESSIYASIDAGI ROLI

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Rezyume

Maqolada PD bilan og'rigan 213 bemorni, shu jumladan 90 (42,25%) ayollar, 123 (57,75%) erkaklar, o'rtacha yoshi 46,17 ± 0,63 yoshni kuzatish natijalari keltirilgan. PD bilan og'rigan bemorlar Britaniya miya bankining "Parkinson's Disease Society Brain Bank" xalqaro mezonlariga muvofiq tanlangan. Bemorlarga miyaning KT yoki MRI tekshiruvi o'tkazildi. Xushbo'y buzilishlar Burchard (Gamburg, Germaniya) tomonidan Sniffin Stix testi (SST) yordamida o'rganildi. Barcha bemorlar LOR a'zolarining tekshiruvidan o'tkazildi. Olingan natijalar shuni ko'rsatadiki, erta boshlangan PD bilan og'rigan bemorlarda giposmiya mavjudligi "Parkinson" tipidagi yashirin neyrodegenerativ jarayonning muhim biomarkeridir va shuning uchun kelajakda PD rivojlanishi xavfi.

Kalit so'zlar: Parkinson kasalligi, hid bilish funktsiyasi, miya, giposmiya, anosmiya.

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Relevance

Early diagnosis of Parkinson's disease is difficult due to the similarity of clinical manifestations in the early stages with essential tremor, multisystem atrophy, progressive supranuclear palsy, etc. That is why the search for biomarkers of the neurodegenerative process in PD is currently recognized as extremely relevant - biochemical, neurophysiological, neuroimaging, etc. [3.5]. From a pathophysiological point of view, PD is characterized by a decrease in the inhibitory effect of pallidum on the striatum, which leads to "inhibition of inhibition" of peripheral motor neurons [4]. Olfactory impairment may be an early clinical sign of PD [1,2]. With the progression of the disease, the presence of these pathological bodies is noted in the neurons of the substantia nigra, midbrain, basal ganglia and, at the final stages, in the cells of the cerebral cortex. Primary parkinsonism includes Parkinson's disease (PD), the second most common neurodegenerative disease that represents a significant medical and socioeconomic problem, as well as juvenile parkinsonism. The diagnosis of the disease is made on the basis of developed clinical criteria [6,7], the correct application of which is largely determined by the qualifications of the doctor, and therefore, at an early stage of the disease, its differentiation from other forms of pathology can cause serious difficulties. Non-motor complications increase with the progression of the disease. Almost all biomarkers of PD are considered for their use in the diagnosis of early and premotor stages of diseases. PD, as already mentioned, at the earliest stages is characterized by the development of an olfactory deficit. Olfactory disturbances occur several years before movement disorders. In general, among patients with PD, olfactory disorders are detected in 70-90% of cases [8], and according to Lotsch et al. [9], even in 99% of cases. At the same time, olfactory disorders may not be felt by the patient himself, therefore, to identify them, it is important to conduct special testing.

Objective. To assess olfactory functions in the examined groups and their role in the progression of PD disease.

Materials and research methods.

213 patients with PD were under observation, including 90 (42.25%) women, 123 (57.75%) men, whose average age was 46.17±0.63 years, predominantly of Uzbek nationality. Patients with PD were selected in accordance with the international criteria of the British brain bank "Parkinson's Disease Society Brain Bank". To exclude other causes of parkinsonism syndrome, patients underwent CT or MRI of the brain. In patients with PD, the form of the disease (akinetic-rigid, mixed, or trembling) and the functional stage of the disease (according to the Hoehn-Yahr scale) were assessed. Olfactory disturbances were studied using the Sniffin Stix Test (SST) by Burchard (Hamburg, Germany). All patients underwent examination of the ENT organs.

Results and discussion

We examined 213 patients with PD, 90 (42.25%) women, 123 (57.75%) men, were divided into two groups, group I - with an early onset of PD, consisted of 79 (37.09%) patients, of of which 31 (14.55%) patients with an early onset and with a burdened family history (SA). Group II - with a late onset of PD, consisted of 134 (62.91%) patients with a late onset, of which 76 (35.68%) patients with a late onset, and with a burdened family history. Group I - with an early onset of PD, consisted of 79 (37.09%) patients with an early onset of PD, of which 45 (56.86%) were men and 34 (43.04%) were women. There were 31 (14.55%) patients with PD with an early onset of PD, but with aggravated SA, of which 18 (58.06%) were men and 13 (41.94%) were women. Group II - with a late onset of PD, consisted of 134 (62.91%) patients, of which 75 (55.97%) were men and 59 (44.03%) were women. There were 76 (35.68%) patients with PD with a late onset of PD, but with aggravated SA, of which 44 (57.89%) were men and 32 (42.11%) were women. Evaluation of olfactory disorders in 213 patients with PD, carried out using SST, which were divided into two groups, group I - with an early onset of PD, consisted of 79 (37.09%) patients, group II - with a late onset of PD, consisted of 134 (62.91%) patients, with a late onset, showed distinct disorders in the examined group in three indicators - threshold, discrimination, identification. The majority of the examined patients with PD 185 (86.85%) revealed dysosmia in the form of hyposmia (RIO 16-29 points) and anosmia (RIO <15 points), normosmia 28 (13.15%), 163 (76.53%) hyposmia and 22 (10.33%) anosmia. Of 213 patients, 28 (13.15%) had a normal level of smell in three parameters; 22 patients (10.33%) have a zero level for all three indicators, that is, anosmia. In 185 cases (86.85%), the sense of smell was reduced in all studied parameters.

In a comparative analysis for each test separately in the main group of patients, a

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decrease in the sense of smell by the threshold was detected in 163 patients (76.53%): the assessment of olfactory disorders according to the threshold test varied from 0 to 9.5 points, the average score was 2.6 ± 1.4 points. Decreased sense of smell according to the discrimination test was found in 126 people (59.14%): the assessment of olfactory disorders ranged from 0 to 16 points, the average score was 8.7±4.2. A decrease in identification was found in 169 people (79.35%): the assessment of olfactory disorders ranged from 0 to 16 points, the average values were 8.2±4.3. Out of 185 patients with decreased sense of smell, 76 patients (41.08%) had anamnestic notes of these disorders even before the test (including 16 (8.65%) of them with anosmia). Most of the patients presented these complaints after a targeted survey, that is, a violation of the function of smell was not among the daily complaints.

We analyzed the relationship between the subjective and objective assessment of the level of smell and the duration of the disease. With a duration of the disease <3 years 104 (48.83%), with men 59 (56.73%) and women 45 (43.27%) a, the number of people who noted a decrease in smell was 8 (7.69%) people, with duration of PD up to 6 years - 51 (23.94%) patients, men 29 (56.86%), and women 22 (43.14%), with duration of PD up to 7 years - 31 (14.55%) patients, 18 (58.06%) men and 13 (41.94%) women, with PD duration up to 8 years - 27 (12.68%) patients, 16 (59.26%) men, and 11 (40, 74%). 18 (9.73%) patients noted a violation of smell before the appearance of motor disorders characteristic of PD.

The results of olfactory tests in women are better, i.e. there are gender differences. In women, the average OIS score was 22.66±4.12; in men, the average OIS score was 16.58±2.78. According to the threshold, the average score for women was 3.03±1.54, for men - 1.86±2.18; on discrimination, the average score for women is 10.0±3.03, for men - 7.58±2.60; by identification, the average score for women was 9.79±4.01, for men - 7.14±5.16. Thus, according to all three tests, hyposmia is more pronounced in men.

Conclusions

Thus, it can be concluded that vestibular disorders detected in PD patients are a significant additional clinical manifestation of the disease, along with well-known motor and non-motor symptoms. To date, there is reason to consider the presence of hyposmia in patients with early onset PD as an important biomarker of the latent neurodegenerative process of the "Parkinsonian" type and, therefore, the risk of future development of PD.

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OPTIMIZATION OF COMBINED GENERAL ANESTHESIA FOR ORTHOPEDIC SURGERY IN CHILDREN

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Resume

The purpose of the study was to improve the quality of anesthesia during orthopedic operations in children using the opioid-sparing anesthesia technique.

Materials and methods. The course of anesthesia was analyzed in 48 patients aged 3 to 14 years, during orthopedic operations in children. The distribution of patients into groups was carried out depending on the technique of anesthesia. Group 1 (main) consisted of 25 children who underwent general anesthesia using low doses of fentanyl, sevoflurane and propofol. group 2 (control) - 23 children who underwent general anesthesia with fentanyl and propofol. Echocardiography was used to determine hemodynamic parameters. The dynamics of changes in the level of cortisol in the blood and the concentration of catecholamines (adrenaline, norepinephrine, dopamine) in daily urine was studied. Results.

In children of the first group, during the introductory period of anesthesia, there was a decrease in CI, an increase in heart rate and UPS. Stroke index (SI), mean arterial pressure (MAP), cardiac index (CI) changed insignificantly compared to the previous stage of the study. In the children of the second group in the most traumatic stages of the operation, there was an increase in SI, HR, and AI.

In the most traumatic stages of the operation and after the operation in children of the first group, there was a tendency to increase cortisol, in the second group of patients, an increase in cortisol was noted.

Key words: opioids, general anesthesia, fentanyl, sevoflurane, propofol, orthopedic surgery.

ОПТИМИЗАЦИЯ КОМБИНИРОВАННОЙ ОБЩЕЙ АНЕСТЕЗИИ ПРИОРТОПЕДИЧЕСКИХ ОПЕРАЦИЯХ У ДЕТЕЙ

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Резюме

Цель исследования улучшение качества обезболивания при ортопедических операциях у детей применением методики опиоидсберегающей анестезии.

Материалы и методы. Проанализировано течение анестезии у 48 больных в возрасте от 3 до 14 лет, при ортопедических операциях у детей.

Распределение больных на группы осуществляли в зависимости от методики проводимой анестезии. 1 группу(основная) составляли 25 детей, которым проводилась общая анестезия с использованием малых доз фентанила, севофлурана и пропофола. 2 группу (контрольная) - 23 детей, которым проводилась общая анестезия фентанилом и пропофолом. Для определения показателей гемодинамики применялась Эхокардиография. Изучалась динамика изменения уровня кортизола в крови и концентрации катехоламинов (адреналин, норадреналин, дофамин) в суточной моче.

У детей первой группы на вводном периоде анестезии отмечалось снижение СИ, увеличение ЧСС и УПС. Показатели ударного индекса (УИ), среднего артериального давления (САД), сердечного индекса (СИ) изменялись незначительно по сравнению с предыдущим этапом исследования. У детей второй группы в наиболее травматичные этапы операции отмечалось увеличение СИ, ЧСС, УИ.

В наиболее травматичные этапы операциии после операции у детей первой группы отмечалась тенденция к увеличению кортизола, во второй группе больных отмечалась увеличение кортизола.

Ключевые слова: опиоиды, общая анестезия, фентанил, севофлуран, пропофол, ортопедические операции.

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БОЛАЛАР ОРТОПЕДИК ОПЕРАЦИЯЛАРИДА КОМБИНИРЛАНГАН УМУМИЙ АНЕСТЕЗИЯНИ ОПТИМАЛЛАШТИРИШ

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Резюме

Тадқиқот мақсади: болалар ортопедик операцияларида опиоидсақловчи анестезия усулини қўллаб оғриқсизлантириш сифатини яхшилаш.

Материал ва услублар 3 ёшдан 14 ёшгача бўлган 48 та беморда ортопедик операцияларда анестезиянинг кечиши ўрганилди.

Анестезия усулига кўра 1чи гуруҳга(асосий) 25 та бемор киритилиб, уларга кичик дозада фентанил ва севофлуран, пропофол қўлланилди, 2чи гуруҳда (назорат) 23 та беморга фентанил ва пропофол билан умумий анестезия ўтказилди. Гемодинамик кўрсаткичларни аниқлаш учун Эхокардиография усули қўлланилди. Қонда кортизол ва суткалик пешобда катехоламинлар (адреналин, норадреналин, дофамин) даражасини ўзгариши ўрганилди.

1 чи гуруҳдаги болаларда анестезияга кириш даврида ЮИ нинг пасайиши, ЮҚС ва НПҚ нинг ортиши кузатилди. ЗИ, ЎАБ, ЮИ кўрсаткичлари тадқиқотнинг аввалги босқичига нисбатан ўзгариши кузатилди. 2 чи гуруҳдаги беморларда травматик босқичда ЮИ, ЮҚС, ЗИ кўрсаткичлари ортди.

Жарроҳлик муолажасининг энг травматик босқичида 1 чи гуруҳда кортизолни ошишига мойиллик кузатилди, 2 чи гуруҳда эса кортизол миқдорининг ортиши қайд этилди.

Калит сўзлар: опиоидлар, умумий анестезия, фентанил, севофлуран, пропофол, ортопедик операциялар.

Relevance

Surgical treatment in pediatric orthopedics is characterized by high trauma and significant blood loss. At the same time, anesthesia methods must meet the requirements of safety, reliability, low invasiveness and provide adequate conditions for the work of the operating team [1,13]. The volume and invasiveness of orthopedic surgical interventions in children require effective and safe anesthesia. For this purpose, intravenous anesthesia preparations are widely used [3,12]. However, these drugs at recommended doses often have a number of negative effects, and dose reduction leads to inadequate pain relief [2,8].

Opioids have long been the "gold standard" of perioperative pain management in both adult and pediatric patients [4,14]. However, excessive use of opioid analgesics slows postoperative awakening, causes drowsiness, and is associated with a higher risk of postoperative nausea and vomiting, as well as other side effects that are associated with the development of a number of negative effects, such as respiratory depression, muscle rigidity, pruritus, and tolerance [5,7,9]. The use of high doses of opioid analgesics can cause opioid-induced postoperative hyperalgesia. It develops as a result of nociceptive sensitization caused by neuroplastic changes in the peripheral and central nervous system and a significant decrease in the pain threshold [14]. Inadequate intraoperative analgesia significantly increases the risk of chronic postoperative pain and complications. This increases the length of the patient's stay in the hospital and the cost of treatment [7].

The maximum use of the possibilities of opioid-sparing technologies in traumatic operations in children are elements of a global ant nociceptive strategy for the use of opioids. In this regard, for pain management in the perioperative period, it is relevant to use all kinds of methods to minimize the use of opioids in children [11]. The increasing introduction into surgical practice of the principles of accelerated postoperative rehabilitation of patients, designated in the form of the modern concept of “Enhanced Recovery after Surgery (ERAS)”, is the use in the schemes of anesthetic management of drugs that do not adversely affect the speed of postoperative rehabilitation of patients, preventing excessive sedation, postoperative nausea and vomiting [6]. At present, the need to reduce the doses of opioid analgesics in the perioperative period seems obvious. From this position, the widespread use of drug combinations is very attractive, which can significantly reduce the need for opioid analgesics, providing an opioid-sparing effect [15].

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Today, the issue of using dexamethasone is being studied, which reduces local tissue edema in the area of damage [10]

The purpose of the study was to improve the quality of anesthesia during orthopedic operations in children using the opioid-sparing anesthesia technique.

Material and methods

The course of anesthesia was analyzed in 48 patients aged 3 to 14 years who were hospitalized at the TashPMI clinic for planned surgery for congenital pectus excavatum (22 patients) and congenital dislocation of the hip joint (26 patients). The data are presented in tab. 1. The duration of the operations in which the studies were carried out ranged from 105.2 ± 11.2 minutes.

The distribution of patients into groups was carried out depending on the technique of anesthesia. Group 1 (main) consisted of 25 children who underwent general anesthesia using low doses of fentanyl, sevoflurane and propofol. group 2 (control) - 23 children who underwent general anesthesia with fentanyl and propofol. In both groups, premedication was used, consisting of atropine sulfate with diphenhydramine in age dosages. In the main group of patients, anesthesia was carried out under the conditions of opioid-sparing technology: 40 minutes before surgery, dexamethasone 2-4 mg was added to the premedication.

Induction was carried out by introducing: fentanyl-0.005% - 2 µg/kg, propofol 1% -2.5 mg/kg and sevoflurane 3 vol.%, arduan-0.2% (0.06 mg/kg) and transfer of patients to mechanical ventilation . IVL was carried out by the Fabius plus device (Germany) in the normoventilation mode with PetCO2 37-38 mm Hg. The gas mixture was supplied in a volume of 2 l/min. Sevoflurane 1-2 vol.% was used to maintain anesthesia. The control group was anesthetized with fentanyl 5 µg/kg and propofol 3 mg/kg. After intravenous administration of the muscle relaxant arduan 0.06 mg/kg, the patients were transferred to mechanical ventilation. After the first bolus administration, repeated doses of fentanyl were 3-2 µg/kg.

The following indicators were determined: systolic blood pressure (BPs), diastolic blood pressure (BPd), mean arterial pressure (BPmean), oxygen saturation (SaO2), heart rate (HR) on the multifunctional BLD monitor (China).

The analysis of the dynamics of central hemodynamic parameters was carried out at 5 key points: the 1st stage - before the operation, the 2nd stage - after premedication, the 3rd stage - induction, the 4th stage - the most traumatic moment of the operation and the 5th stage - the end surgery. The severity of surgical stress was determined by the level of stress hormone cortisol in 3 stages: before surgery, at the most traumatic stage and immediately after surgery. The dynamics of the concentration of catecholamines (adrenaline, norepinephrine, dopamine) in daily urine was studied in two stages: before surgery and in the postoperative periods.

Result and discussion

For this purpose, hemodynamic parameters were studied during anesthesia using fentanyl in combination with propofol and sevoflurane. The results of studies of the BP indicator are presented in Table 2. In both groups, the maximum increase in BP was noted at the stage of induction. At this stage of the study, in children of the second group, blood pressure increased by 9.8% more than in children of the first group.

Table 1 Patient characteristics

	Groups		%
	1	2	
Age	7,76±0,5	6,78±0,59	7,88
Body mass	24,58±1,56	22,54±1,72	8,25
Operation duration	61±3,38	73,09±3,65	19,82*

Note: sign * - reliability of differences in the indicators of the second group to the first group at P<0.05.

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Table 2. BP indicators in children of the study groups

Groups	Indicato	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
1	BPs., mm Hg	92±1,9	101±1,2	107,5±1,9	101±1,7	101±0,8
	BDD, mm Hg	55±1,3	61,5±1,3	63,5±1,9	59±0,8	61±1,7
2	BP, mmHg	105,4±7,3	110,2±7,58	118±7,0	113,6±6,35	107,1±4,99
	BDD, mm Hg	68,1±7,1	72,3±7,25	77,2±7,08	74,2±6,23	69,9±5,57

Studies of central hemodynamic parameters in children of the first group showed the following. Compared with the initial data on the premedication background, there was an increase in heart rate by 9.78% and specific peripheral resistance (RPS) of the vessels by 24.51%. Other indicators changed slightly (Table 2).

Table 3. Indicators of central hemodynamics in children during combined anesthesia with fentanyl, sevoflurane and propofol

Indicators	Outcome	premedication	introductory period	traumatic stage of the operation	end of the operation
UI, ml /м^2	41,54±1,22	40,49±3,15	41,74±2,01	40,5±3,68	39,63 ±4,19
SAD, mm Hg Art.	78,85±1,21	81,2±2,93	84,22±3,75	77,81±4,0	75,44±2,56
Heart rate, min $^{-1}$	84,0±2,38	107,75±2,87*	107,93±3,93*	122,7±8,41*	126,01±8,45*
SI, L/min x м^2	4,7±0,4	5,0±0,5	4,2±0,2	4,1±0,4	4,0±0,4
UPS, r.u.	30,42±5,31	40,33±7,74	40,76±5,85	36,93±5,17	38,16±7,56

Note: * - reliability of differences in indicators compared with the initial value (P<0.05).

During the introductory period of anesthesia, there was a decrease in CI by 10.63%, an increase in heart rate by 25.45% and an increase in UPS by 25.58%. Stroke index (SI), mean arterial pressure (MAP), cardiac index (CI) changed insignificantly compared to the previous stage of the study.

During the maintenance period of anesthesia, certain changes in the indicators of central and peripheral hemodynamics were also observed. So, at the 4th stage of the study, compared with the 3rd stage of the study, there was a certain trend towards a decrease in CI indicators - by 12.76%, CI by 2.5%, while heart rate increased by 41.1%, UPSS - by 16.1% .Despite this, it can be argued that the hemodynamic parameters remained within the optimal values.

In connection with the use of low doses of fentanyl, there was no pattern of pronounced circulatory depression due to a decrease in vascular tone. Clinical concentrations of propofol did not inhibit myocardial contractility. The increase in UPS was associated with a transient initial response to the administration of drugs; subsequently, a return of UPS closer to the initial value was observed.

Sevoflurane during the induction period provided suppression of pharyngeal and laryngeal reflexes, after which tracheal intubation was performed. The applied low dose of Fentanyl as part of combined anesthesia did not cause severe circulatory depression, however, there was a moderate decrease in blood pressure as a result of vasodilation, inhibition of sympathetic reflexes and relative bradycardia. Apparently, this occurred due to the activation of the opiate receptor (mu) by inhibition of presynaptic release and postsynaptic interaction of excitatory neurotransmitters (acetylcholine) of nociceptive neurons.

Data from similar studies of central hemodynamics during combined anesthesia in children of the second group are presented in Table 3.

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Table 4. Indicators of central hemodynamics in children during combined anesthesia with fentanyl and propofol

Indicators	Outcome	premedication	introductory period	traumatic stage of the operation	end of the operation
UI, ml/m^2	44,86±0,79	51,12±2,14*	49,08±1,91	50,34±2,15*	53,54 ±6,91
SAD, mm. rt.st	62,42±2,27	67,03±2,29	67,03±2,4	65,97±2,78	63,03±2,06
Heart rate, min^{-1}	82,14±2,09	115,26±3,07*	112,25±2,13*	120,52±5,23*	133,75±7,93*
SI, L/min x м^2	4,83±0,35	5,11±0,21	4,91±0,19	6,63±0,48*	8,03±1,39*
UPS, r.u.	31,18±4,74	48,1±10,6	42,24±8,69	43,72±10,6	32,88±4,87

Note: * - reliability of differences in indicators compared with the initial value (P<0.05).

During the introductory period of anesthesia, there was an increase in heart rate by 32.67% (P<0.05), UPS by 15.53%, AI by 9.4% relative to its initial values.

In the most traumatic stages of the operation, there was an increase in SI, HR, SI, respectively, by 37.26%, 41.65% and 12.21% (P<0.05), and compared with the previous stage of the study, these indicators changed unreliably. At the end of the operation, compared with the stage of the traumatic moment of the operation, the indicators of central hemodynamics changed insignificantly.

Thus, the use of low doses of fentanyl in combination with sevoflurane and propofol as part of combined anesthesia was accompanied by minor and compensated changes in the main indicators of central hemodynamics, which indicated that effective anesthetic protection of children was ensured.

In children of the first group after the operation, there was a decrease in adrenaline in the urine by 16.69%. At the same time, there was a slight decrease in the concentration of norepinephrine and dopamine in the urine (Table 4). A decrease in the excretion of dopamine apparently indicates a decrease in the initial substrate for dopamine, which in turn leads to a slowdown in the conversion of tyrosine into dopamine. When the body is exposed to stress factors of various etiologies and severity, followed by activation of the hypothalamic-pituitary-adrenal system, which may have led to an increase in the concentration of glucocorticoids and catecholamines.

Table 5 Urinary catecholamine concentrations during combined anesthesia with fentanyl, sevoflurane and propofol

Catecholamines, mcg/day	Before surgery	After surgery
Adrenalin	5,39±0,88	4,49±0,65
Norepinephrine	10,97±1,40	10,76±1,53
Dopamine	112,69±5,15	108,63±3,75

The dynamics of the concentration of catecholamines in the daily urine during general anesthesia with fentanyl and propofol are shown in Table 6. In patients of the second group, the concentration of catecholamines in the urine - adrenaline and norepinephrine tended to decrease in the postoperative period. At the same time, the concentration of dopamine tended to increase (Table 5).

Table 6 Urinary Catecholamine Concentrations During Combined Anesthesia with Fentanyl and Propofol

Catecholamines,	mcg/day Before surgery	After surgery
Adrenalin	6,19±0,99	6,74±0,85
Norepinephrine	14,49±2,27	14,58±2,38
Dopamine	124,64±4,92	125,57±2,7

Studies have shown that during general anesthesia using fentanyl, sevoflurane and propofol, there was a decrease in the concentration of catecholamines in the postoperative period.

The study noted minor changes in the concentration of cortisol. In the most traumatic

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stages of the operation and after the operation, the children of the first group showed a tendency to increase cortisol, in the second group of patients in the most traumatic stages of the operation there was an increase in cortisol by 14.59% more than in the children of the 1st study group. In the postoperative period, the cortisol of the 2nd group increased by 15.75% than the cortisol of the 1st study group.

Table 7. Change in cortisol concentration (nmol/l) in the postoperative period

Groups	Before surgery	Traumatic moment	After operation
1 группа	323,5±12,3	326,8±10,9	321,1±11,1
2 группа	346,2±14,9	374,5±11,6	371,7±11,1

Analysis of the obtained data shows that the opioid-sparing variant of combined general anesthesia used by us makes it possible to prevent excessive tension of the sympathoadrenal system and provide adequate protection of patients from surgical stress. The stability of the studied parameters in the main group indicates a more reliable antinociceptive protection. This variant of anesthesia also made it possible to limit the total doses of fentanyl by almost two times.

Conclusions

1. General anesthesia with fentanyl, sevoflurane and propofol provides adequate protection for patients in the intraoperative period, causing a slight activation of the hormonal status, which should be considered as a favorable factor that does not require correction.
2. The introduction of dexamethasone 40 minutes before surgery, in contrast to the sedation of the second group, prevents an increase in the level of catecholamines in daily urine against the background of a decrease in the excretion of their precursors.
3. The use of an opioid-sparing version of general anesthesia in the scheme of anesthesia management aimed at minimizing doses can significantly limit the side effects of surgical stress and improve the reliability, safety and quality of anesthesia during orthopedic operations in children.

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HYGIENIC ANALYSIS OF DAILY NUTRITION OF SCHOOLCHILDREN IN THE WINTER-SPRING SEASONS

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Resume

In the hygienic assessment of the daily consumption of food at home in the winter and spring seasons of primary schoolchildren living in rural conditions of Fergana region, 784 schoolchildren received 481(61,3%) boys and 303(38,7%) girls. The ration composition of the school students ' meals during the day was assessed according to the requirements of SanNandR 0017-2022, SanNandR 0007-2020, as well as their chemical composition "chemical composition of food products". As can be seen from the results obtained, the mode of nutrition of schoolchildren for breakfast, lunch, tolma tea and dinner does not correspond to hygienic requirements, in ration the amount of flour, bread, rice and macron, confectionery products, sugar, soups, yoghurt, margarine and tomato is sharply excessive, however, cereals are supplied in the winter to 53,3% in the spring to 33,3%, The amount of vegetables and fruits is not sufficiently provided even in the winter and spring seasons, the amount of melons products has decreased from winter season to winter season in the spring season, in the spring season only the amount of greens is provided in excess of 25%. The consumption rate of proteins was 85,4% -82.5%, fats 71,1-64,4%, and the amount of carbs 116,3% -107,4%. The amount of vitamins in the daily ration was consumed in winter from 67,0-87,5%, in the spring-from 60,0 to 82,2% less than the established normative level. This has a negative impact on the health status and performance of schoolchildren.

Key words. Daily ration, eating regimen, food intake, proteins, fats and vegetable oils, carbs and vitamins

ГИГИЕНИЧЕСКИЙ АНАЛИЗ СУТОЧНОГО РАЦИОНА ПИТАНИЯ ШКОЛЬНИКОВ ЗИМНЕ-ВЕСЕННЕГО ПЕРИОДА

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Резюме

При гигиенической оценке суточного рациона учащихся начальных классов, проживающих в сельской местности Ферганской области, в зимне-весенний период из 784 школьников были исследованы 484 (61,3%) мальчика и 303 (38,7%) девочек. Состав суточного рациона школьников оценивали в соответствии с требованиями СанПиН 0017-2022, СанПиН 0007-2020 и их химический состав по «Химическому составу пищевых продуктов». Результаты показывают, что рацион учашихся на завтрак, обед, полдник и ужин не соответствует гигиеническим требованиям: количество муки, хлеба, риса и макаронных изделий, кондитерских изделий, сахара, соли, кофе, маргарина и томатов - в рационе значительно увеличено, однако обеспеченность крупы ниже на 53,3% зимой и 33,3% весной, а мясными продуктами в аналогичном порядке на 40-58,3% и 35,8-80%. Количество овощей и фруктов также недостаточно обеспечено зимой и весной, бахчевых культур весной меньше, чем зимой, только зелени весной больше нормы на 25%. Потребление белков колебалось от 85,4 до 82,5%, жиров от 71,1 до 64,4%, углеводов от 116,3 до 107,4%. Содержание витаминов в суточном рационе зимой было на 67,0-87,5%, а весной на 60,0-82,2% ниже установленной нормы- что отрицательно влияет на состояния здоровья и успеваемость школьников.

Ключевые слова. Суточный рацион, режим питания, пищевые продукты, белки, жиры, растительные масла, углеводы и витамины.

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МАКТАБ ЎҚУВЧИЛАРНИНГ ҚИШ-БАҲОР МАВСУМЛАРИДА КУНЛИК ОВҚАТЛАНИШИНИ ГИГИЕНИК ТАҲЛИЛИ

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Резюме

Фарғона вилоятининг қишлоқ шароитида истиқомат қилаётган бошлангич синф ўқувчиларининг йилнинг қиш ва баҳор фаслларида уй шароитида кунлик истеъмол қилаётган овқатланиш тартибини гигиеник баҳолашда 784 нафарни мактаб ўқувчиларидан 481(61,3%) нафари ўғил ва 303(38,7%) нафари қиз болалар олинди. Мактаб ўқувчиларнинг кун давомидаги овқатланиш рациони таркиби СанНваҚ 0017-2022, СанНваҚ 0007-2020 талаблари ҳамда уларнинг кимёвий таркиби «Озиқ-овқат маҳсулотларининг кимёвий таркиби» бўйича баҳоланди. Олинган натижалардан кўриниб турибдики, ўқувчиларнинг нонушта, тушлик, толма чой ва кечқурунги овқатланиш тартиби гигиеник талабларга мос келмайди, рационда ун, нон, гуруч ва макрон, қандолат маҳсулотлари, шакар, ош тузи, қахва, маргарин ва томатнинг миқдори кескин даражада ортиқча, бироқ, ёрмалар қиш мавсумида 53,3%га баҳорда эса 33,3%га, анологик тартибда гўшт маҳсулотлари 40-58,3% ва 35,8-80%гача таъминланган. Сабзовот ва меваларнинг миқдори қиш-баҳор фаслларида ҳам етарли даражада таъминланмаган, полиз маҳсулотларнинг миқдори баҳор фаслида қиш фаслига нисабтан камайган, баҳор фаслида фақат кўкатлар миқдори 25%гача ортиқча таъминланган. Оқсилларнинг истеъмол даражаси 85,4%-82,5%ни, ёғлар 71,1-64,4%ни, карбонсувларнинг миқдори эса 116,3%-107,4%ни ташкил қилган. Кунлик рацион таркибида витаминларнинг миқдори қиш мавсумида 67,0-87,5%га, баҳор мавсумида эса белгиланган меъёрий даражадан 60,0дан-82,2%гача кам истеъмол қилинган. Бу эса мактаб ўқувчиларнинг саломатлик ҳолати ва ишлаш қобилиятига салбий таъсир кўрсатади.

Калит сўзлари. Кунлик рацион, овқатланиш тартиби, озиқ-овқат маҳсулотлари, оқсиллар, ёғлар, ўсимлик мойлари, карбонсувлар ва витаминлар.

Relevance

One of the important factors that determine the nature of nutrition in children and adolescents is the connection with the observance of eating behavior and flour. Studies on the short and long-term regulation of eating behavior have shown that the benefits associated with taste are determined by two leading factors: the innate characteristics of the perception of taste qualities and their changes within certain limits, depending on ethnic and social characteristics. At the same time, the assimilation of food preferences largely depends on the mode of nutrition in the family, the parents ' knowledge of healthy eating, as well as their propaganda about healthy eating and eating behavior in the media and their effectiveness [1,2,3,5,6,7].

According to modern researchers, the impact of internal environment factors on the change in student health indicators is 20-40%. At school age, students are characterized by a high intensity of growth and formation of students' life support systems on the basis of their high sensitivity to environmental factors [2,3].

The increase in daily loads increases the child's nervous system's need for neurotropic vitamins (Group B), minerals (magnesium, iron, Cink, kaltsium), vitaminized substances (ō-3 -3 polyunsaturated fatty acids, lecithin, carotene) and energy [6,8,9].

Hygienic research has shown that 50% of primary and secondary school age students eat no more than 3 times a day in an orderly manner, one of the main causes of malnutrition is excessive educational overload. With the presence of high stress and low stress resistance, food intake has instead of a specific protective mechanism against stress, but this form of protection is pathological and leads to obesity[1,6,8].

In conditions of irregular, improper and unbalanced nutrition on the main components of food, with an increase in training loads, fatigue of the nervous system begins quickly. According to leading scientists, the issue of ensuring regular, rational and healthy nutrition of students in various educational institutions, the formation of proper nutrition behavior is one of the main ways

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of maintaining and strengthening the health of the younger generation [6,10,11-19].

A sharp increase in the number of diseases associated with nutrition among schoolchildren, regardless of how much scientific research is being conducted, entails carrying out profilactic work among them, hygienic analysis of the quality and order of meals.

Research goal. Currently, the school is conducting an analysis of hygiene procedures.

Material and methods

In the hygienic assessment of the daily consumption of food at home in the winter and spring seasons of the schoolchildren living in rural conditions of the controlled Fergana region, 481(61,3%) of schoolchildren and 303(38,7%) of boys and girls accounted for 784. San NandR 0017-2022 "Sanitary rules, norms and hygienic norms of Organization of nutrition of pupils in general secondary, secondary special, professional educational institutions", SanNandR 0007-2020 "The main food products of the ration of schoolchildren's day-long nutrition", SanNandR 0007-202020" the age of the population of the Republic of Uzbekistan, the norms of the average daily rational diet aimed at ensuring a healthy diet for groups of sex and professional activity" the requirements of sanitary norms and rules were carried out according to the "Chemical composition of food products", the amount of the chemical composition of the daily ration.

In the statistical processing of the results of the study, a practical application package of the computer "Statistica for Windows 7,0" was used.

Discussion of the results obtained

The findings of the study show that the mode of school students nutrition is as follows. Most of the students eat different, that is, irregular meals throughout the day. 20-25% of them do not have breakfast in the morning. 35-40% of students eat at breakfast only sweet tea, bread with butter, or margarine with butter, biscuits. 22-27% of schoolchildren consumed milk porridge, sweet tea, low-fat bread, or margarine with butter during the morning breakfast, 15-20% of schoolchildren found that they ate sweet tea and bread with home-made food in the evening. And the morning breakfast, in which this procedure is prescribed, does not comply with hygienic requirements and negatively affects the ability of students to work in the day. 85-90% of schoolchildren have a second breakfast at school, and its composition consists of the following, one of which is a school bun or a variety of buns. In some days in the composition they eat cottage cheese, jam, buns with kernels or nuts.Also, in some cases, instead of buns, together with sausage buns, they introduce pumpkin, potato and meat pie, cutlets with bread, mayyoneze and ketchup.On the second breakfast, it was determined to eat a variety of carbonated drinks in combination with tea, sweet tea, Bran with the addition of sugar and dried milk. Breakfast in such an order or a second breakfast does not meet the hygienic requirements at all.

The level of consumption of food consumed by schoolchildren in the winter season is given in Table 1.

As can be seen from the hygienic analysis of the order of feeding of schoolchildren in the seasons under control, we analyzed the aggregate of the products listed in the normative documents in a series of 45 products.

The analysis obtained shows that it is desirable to study all consumed products in aloe, but there are more than 10 types of cereals, all of which can not be studied in one group, and the chemical composition of all is different. As can be seen from the hygienic analysis of food consumed by schoolchildren in winter, the level of consumption of legumes was 53,3% compared to the physiological norm. And this in its place indicates that the level of supply of vegetable proteins necessary for the body is less than 46,7%.

The role of groats among schoolchildren is great. We have recommended the following types of groats for children and adolescents, namely, sorghum, legumes,millet, oats, barley and peas, while in our research made up 46,6% of the supplied with groats. Types of cereals recommended without rice. And the consumption rate of rice is 113,3%, that is, 13,3% is provided in excess. As can be seen from the hygienic analysis of the level of supply of cereals, the level of consumption of barley and lentils among the controlled schoolchildren was quite low, schoolchildren consumed only rice at home.

It was determined that students who were under control would eat bread made from high-grade flour without cream, in which there would be more than 500 different types of bread in the world. And the amount of daily consumption of bread indicates an excess of 1,7 times from the physiological normative indicator [15-19]. The consumption rate of rye noninng was 37,5%.

Children were recommended bread made from corn and rice flour, and they are not used in this region. Macron and confectionery products were introduced into the group of bakery products. The rate of consumption of pasta was 186,7%. Normative indicators of confectionery products are not specified in the established physiologic normative indexes and sanitary norms and rules. If we talk about the composition of the consumed products, then most of them are used high-grade flour, sugar, vegetable margarine, salt, yeast and whisk, in some of them fruit jam or syrup, cottage cheese. The level of consumption of confectionery products increased by 350% in winter and increased

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by 250% from the normative figure. It is worth noting that the ration of schoolchildren's second breakfast or lunch time at school consists of a single bun or soms, pies with potatoes, zucchini or meat, fried in vegetable oil. No matter what season of the year the daily ration of schoolchildren is, the Coca-Cola consists of other carbonated snacks and teas. Separately studied all kinds of vegeteables, we will dwell on the most basic of them-potatoes.

Table 1

Indicator of the number of products consumed by schoolchildren in winter

№	Product name	f/m	consumption rate	sufficiency, %	%, less	less, gr
1	Legumes	15	8±0,26	53,3	46,7	-7
2	Wheat flour	15	28±0,92	186,7	+86,7	+13
3	Rice	15	17±0,54	113,3	+13,3	+2
4	cereals (no rice)	15	7±0,23	46,6	53,3	-8
5	Wheat flour bread	150	266±9,0	177,3	+77,3	+116
6	Rye bread	80	30±0,99	37,5	62,5	-50
7	Macaroons	15	28±0,89	186,7	86,7	+13
8	Potato	250	175±5,8	70,0	30,0	-75
9	Cabbage	50	25±0,83	50,0	50,0	-25
10	Cucumber	40	12±0,40	30,0	70,0	-28
11	Tomato	30	9±0,29	30,0	70,0	-21
12	Beet	25	13±0,43	52,0	48,0	-12
13	Carrot	40	25±0,81	62,5	37,5	-15
14	Onion	30	35±1,2	116,6	16,6	+5
15	Other vegetables	50	35±1,1	70,0	30,0	-15
16	Melon products	50	25±0,84	50,0	50,0	-25
17	Pumpkin	30	25±0,82	83,3	16,7	-5
18	Greens	5	2±0,07	40,0	60,0	-3
19	Apple	200	95±3,2	47,5	52,5	-105
20	Dried	15	9±0,30	60,0	40,0	-6
21	Grapes	30	10±0,32	33,3	66,7	-20
22	Citrus	10	9±0,31	90,0	10,0	-1
23	Beef	95	45±1,5	47,3	52,7	-50
24	Lamb	20	25±0,81	125,0	+25,0	+5
25	Rabbit meat	20	5±0,24	25,0	75,0	-15
26	Poultry	40	24±0,78	60,0	40,0	-16
27	Fish	60	25±0,83	41,6	58,4	-35
28	Fish products	20	6±0,19	30,0	70,0	-14
29	Milk	300	175±6,0	58,3	41,7	-125
30	Sour milk	150	80±2,6	53,3	46,7	-70
31	Sour cream, cream	10	6±0,20	60,0	40,0	-4
32	Butter	30	16±0,52	53,3	46,7	-14
33	Cottage cheese	50	22±0,73	44,0	56,0	-28
34	Cheese	10	7±0,22	70,0	30,0	-3
35	Egg (pices)	1,0	0,5±0,02	50,0	50,0	-0,5
36	Sugar	30	35±1,1	116,7	+16,7	+5
37	Honey	5	2±0,06	40,0	60,0	-3
38	Margarine	-	15±0,49	0,0	0,0	+15
39	Vegetable oil	15	11±0,36	73,3	26,7	-4
40	Iodized salt	5	12±0,40	240	+140,0	+7
41	Tea	0,4	0,2±0,01	50,0	50,0	-0,2
42	Café	1,2	2,0±0,07	166,6	+66,6	+0,8
43	Tomato	3	5±0,16	166,6	+66,6	+2
44	Species	2	1±0,03	50,0	50,0	-1
45	Confectionary	10	35±1,2	350,0	+250,0	+25

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It is necessary that the physiological normative index of potatoes is 250 gr. In our research, however, it has made up 70% of the students ' daily ration. In the daily ration of schoolchildren, the rate of consumption of other vegetables was reduced from 30 to 70% in the winter of the year, while the consumption rate of onions alone was increased by 16,7%. The daily ration contained garlic onions, the consumption rate of greens was 40%. It is worth noting that in the consumption of carrots, we saw a sharp correlation with the seasonality of cultivation of local products in the daily ration of the level of consumption. In the following years, despite the high popularity of greenhouses in our country, the moderation of storage places of fruits and vegetables, melons are considered seasonal products. We considered it permissible to conduct our own analysis on the basis of the sequence of products listed in the normative documents. The daily ration of schoolchildren and the role of meat,fish and dairy products in the unit of the structure of the organism are listed in the works of a number of authors [10,11,15-19].

As can be seen from the hygienic analysis of the level of consumption of meat, it was mainly determined that they consumed beef, sheep, rabbit, poultry, fish and fish products. During the research it was determined that if not used other meat products on the day of the use of beef in home conditions. The meat products listed in the sequence table were used. The consumption rate of meat products was from 47,3% to 60%, depending on the types, while the consumption rate of lamb was 125%. In Fergana Valley lamb is used more than in other climates. The level of consumption of rabbit meat is quite low. The level of physiologic normalization of the total consumption of meat products did not correspond. This created conditions for the spread of various diseases among pupils. Fish and fish products contain omega 3 and omega 6 fats, vitamins D and E, and zinc and selenium from microelements, are a source of iron. As can be seen from our research, the level of consumption of Fish and fish products is negligible. In the daily ration, the consumption of pure fish products was 41.6%, while the consumption of fish products was 30%. The role of milk and dairy products in the daily ration of children and adolescents is higher than in other products.

It is a source of calcium, combined with a number of micro-and macronutrients, in combination with proteins, saturated fats, combined with energy to the body through milk and dairy products[1,10,11,15-19].

Dairy products take an active part in the formation of the body's digestive system, their physical development.

The fat content of milk is of great importance, the fat content of milk consumed today is 3,2, 4, 6 and 8% of the species used. Most of the controlled schoolchildren used milk, which was bought in the population at home conditions. Their ratio is as follows: 70-75% of their own private farmers, 15-20% of their own homes drink cow's milk, while 10-20% of students found that they consumed pure milk, which was sold at the counters. However, in the daily ration, the rate of milk consumption was 58,3%. Among dairy products, the importance of butter in the body can not be overestimated. It actively participates in the synthesis of essential oils and hormones. It is a source of vitamins A, E and D species supply.

Together with the consumption rate of 53.3% butter, its fat content is significant. It was found that in the majority of the schoolchildren we controlled it consisted 72.5%.

From dairy products, the amount of cottage cheese, sour milk and sour cream was also estimated at 44-70%. The level of sugar consumption was 116,7% among schoolchildren, in addition to other products. The level of consumption of pure vegetable oil was 73,35, but the level of consumption of margarine was 15 Gramm per day, while the daily ration of margarine school students should not be entered.

We dwell on the hygienic analysis of products, it is worth noting that the daily amount of table salt is more than 2,4 times more than in the prescribed physiologic norms. Based on the analysis and conclusions of scientific sources, it is worth noting that the lack of iodine microelement in the composition of table salt creates conditions for the development of endemic bull disease, it is observed that there is a sharp increase in iron and iodine deficiency among schoolchildren without an excess of salt ration [15-19]. In the composition of children's daily ration it is recommended to add cocoa to milk. In the daily ration of schoolchildren, the level of consumption of cashew and tomato paste was 166,6%. Excessive consumption of tomato paste creates conditions for violations of the intestinal activity of the stomach among schoolchildren. And the amount of spices seems to be less than the established physiological norm. The analysis carried out shows that the school does not comply with the established hygienic requirements of the winter feeding regime of students, there are visible changes that are characteristic of the school, this condition is caused by a number of changes in the growth and development, functional state, body movement system in the body of students.

In the next task of our study, it consists of a hygienic analysis of the spring-season eating regimen of schoolchildren under control, the results of which are presented in Table 2.

The spring season of the year is one of the seasons in which the deficiency in the body is clearly visible, the season in which the quality of a number of products and the amount of nutrients contained in it are reduced.

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However, for the first time in this season, various fresh greens, later, fresh carrots and fruits begin to be added. Nevertheless, this month the shortcomings are clearly visible. From the hygienic analysis of the food consumed by schoolchildren in the spring season, it can be seen that the rate of consumption of legumes is 13,3% less than in the winter, and it is seen that the rate of consumption of legumes decreases by 60% compared to the physiological norm. And the consumption rate of cereals is plus by 20,1% compared to the winter season, but in comparison with the physiological norm it is consumed by 33,3% less. The daily ration content indicates that the consumption rate of bread in rice 23,3%, macaroni products 106,6% is 83,3%, confectionery products 2,6 times, the consumption rate of sugar exceeds 33,3%.

Table 2

Indicator of the number of products consumed by schoolchildren in spting

№	Product name	f/m	consumption rate	sufficiency, %	%, less	less, gr
1	Legumes	15	6±0,20	40,0	60,0	-9
2	Wheat flour	15	27,5±0,91	183,3	+83,3	+12,5
3	Rice	15	19±0,63	126,6	+26,6	+4
4	cereals (no rice)	15	10±0,34	66,7	33,3	-5
5	Wheat flour bread	150	247±8,3	164,7	+64,7	+97
6	Rye bread	80	42±1,4	52,5	-47,5	-38
7	Macaroons	15	31±1,1	206,6	+106,6	+16
8	Potato	250	132±4,5	52,8	47,2	-118
9	Cabbage	50	15±0,49	30	70	-35
10	Cucumber	40	9±0,30	22,5	77,5	-31
11	Tomato	30	5±0,17	16,6	83,4	-25
12	Beet	25	11±0,37	44,0	56,0	-14
13	Carrot	40	15±0,51	37,5	62,5	-25
14	Onion	30	25±0,83	83,3	16,7	-5
15	Other vegetables	50	24±0,80	48,0	52,0	-26
16	Melon products	50	11±0,37	22,0	78,0	-39
17	Pumpkin	30	11±0,36	36,7	63,3	-19
18	Greens	5	6±0,21	120,0	+20,0	+1
19	Apple	200	65±2,2	32,5	67,5	-135
20	Dried	15	5±0,17	33,3	66,7	-10
21	Grapes	30	5±0,16	16,6	83,4	-25
22	Citrus	10	11±0,35	110,0	+10,0	+1
23	Beef	95	35±1,2	36,8	63,2	-60
24	Lamb	20	15±0,48	75,0	25,0	+5
25	Rabbit meat	20	5±0,24	25,0	75,0	-15
26	Poultry	40	34±1,1	85,0	15,0	-6
27	Fish	60	15±0,50	25,0	75,0	-45
28	Fish products	20	5±0,15	25,0	75,0	-15
29	Milk	300	155±5,2	51,7	48,3	-145
30	Sour milk	150	65±2,1	43,3	56,7	-85
31	Sour cream, cream	10	5±0,17	50,0	50,0	-5
32	Butter	30	13±0,43	43,3	56,7	-17
33	Cottage cheese	50	12±0,39	24,0	76,0	-38
34	Cheese	10	5±0,15	50,0	50,0	-5
35	Egg (pices)	1,0	1,0±0,04	100,0	0,0	0,0
36	Sugar	30	35±1,1	133,3	+33,3	+10
37	Honey	0	2±0,06	0,0	0,0	+2
38	Margarine	-	25±0,84	0,0	0,0	+20
39	Vegetable oil	15	13±0,43	86,7	13,3	-2
40	Iodized salt	5	10±0,32	200,0	+100,0	+5
41	Tea	0,4	0,2±0,01	50,0	50,0	-0,2
42	Café	1,2	2,0±0,06	166,6	+66,6	+0,8
43	Tomato	3	5±0,17	166,6	+66,6	+2
44	Species	2	1±0,03	50,0	50,0	-1
45	Confectionary	10	36±1,3	360	+260,0	+26

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All kinds of carrots are supplied by 30-83,3%, if in the spring season of the year the amount of pure tomatoes and almonds is sharply reduced, then the amount of other carrots is also increased by 20%, however, the amount of greens is sharply increased compared to the winter season and appears to be excretion by 20% compared to the norm. It is no secret that in the spring season of the year the amount of melons products is sharply reduced, it seems that their volume is 22,0 and 36,65. The daily ration also significantly reduced the amount of fruits. As can be seen from the hygienic analysis of the level of consumption of meat products, the level of their supply was from 36,8% to 80%, among which the most abundant poultry meat was consumed. In the case of excessive consumption of poultry meat in the winter, poultry meat in the spring season is more excessive than in the winter, however, by 20% less than the norm. At the level of general consumption of meat products, even in the spring season, it did not correspond to the physiologic normative level.And this creates conditions for the development of a decrease in the immune system and anemia, at first among schoolchildren. The daily ration of schoolchildren shows that the level of consumption of Fish and fish products, milk and dairy products is sharply lower than the level of physiological norm. In the spring season, as in winter, ration, the amount of pilaf, tomato and kakhva was consumed from 66,6 to 100% in excess. As can be seen from the hygienic analysis of the consumption composition of products, it is seen that in the spring season, in addition to some greens, there is a sharp decrease in meat, fish, dairy products, carrots and fruits.

The quantitative indicators of the nutrients consumed by schoolchildren in winter are presented in Table 3.

Table 3

Indicator of nutrients consumed by schoolchildren in winter

№	Name of product	Physiological norm	Consumption rate	%, difference	g, difference
1	Proteins, g	77	65,8±2,5	85,5	-11,2
1.1.	Animal proteins,g	48	36,9±1,2	76,8	-11,1
1.2.	Vegetable proteins, g	29	28,9±1,1	99,6	-0,1
2	Fats,g	79	56,1±1,9	71,1	-22,9
	Animal fats, g	59	36,9±1,2	62,5	-22,1
2.1	Vegetable fats, g	20	19,2±0,71	96,0	-0,8
3	Carbs,g	335	389,9±12,7	116,3	+54,9
4	Energetic value, kcal	2350	2334,28	99,3	-0,7
5	P:F:C ratio	1:1:4	1:0,85:5,88		

As can be seen from the information presented in Table 3, the rate of consumption of proteins in the winter season of schoolchildren was 85,4%, of which the amount of animal proteins was 76,8%, while the amount of vegetable proteins was 99,6%, the rate of consumption of Fats was 56,1%, the rate of consumption of animal fats was 62,4 And the consumption rate of carbs was 116,3% in the winter season, its daily energy value was 2334,3 kcal (2350 kcal in the norm). And the ratio of protein, fat and carbs was 1:0,85:5,88.

And the quantitative indicators of the nutrients that school students consume during the spring season are presented in Table 4.

Table 4 **Indicator of nutrients consumed by schoolchildren in spring**

№	Name of product	Physiological norm	Consumption rate	%, difference	g, difference
1	Proteins, g	77	63,8±2,1	82,8	-13,2
1.1.	Animal proteins,g	48	35,3±1,1	73,5	-12,7
1.2.	Vegetable proteins, g	29	28,3±1,0	97,5	-0,7
2	Fats,g	79,0	50,9±1,7	64,43	-28,1
2.1	Animal fats, g	59,0	28,3±0,9	47,9	-30,7
2.1	Vegetable fats, g	20,0	22,6±0,75	+113,0	+2,6
3	Carbs,g	335,0	359,8±11,7	+107,4	+24,8
4	Energetic value, kcal	2350,0	2158,8	91,86	-191,2
5	P:F:C ratio	1:1:4	1:0,79:5,63		

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As can be seen from the information presented in Table 4, the rate of consumption of proteins in the spring season of schoolchildren was 82,8%, of which the amount of animal proteins was 73,5%, while the amount of vegetable proteins was 97,5%, the rate of consumption of Fats was 64,3%, the rate of consumption of animal fats was 47,9 And the consumption rate of carbs was 107,4% in the winter season, the daily energy value of 2334,3 (2158,8 kcal in the norm) kcal. And the ratio of protein, fat and carbs was 1:0,85:5,88. The amount of vitamins contained in food products that schoolchildren consume in the winter season is listed in Table 5.

Table 5

The level of consumption of vitamins in the composition of food products consumed by schoolchildren in winter

№	Name of product	Physiological norm	Consumption rate	%, difference	g, difference
1	Retinol	700,0	536,9±17,6	76,7	-163,1
2	Thiamine, mg	1,2	0,9±0,03	75,0	-0,3
3	Pyridoxine	1,6	1,4±0,05	87,5	-0,2
4	Cyanocobalamin,mcg	2,0	1,3±0,04	65,0	-0,7
5	calciferol, mcg	2,5	2,1±0,07	84,0	-0,4
6	Tocopherol, mg	10,0	6,7±0,21	67,0	-3,3
7	ascorbic acid	60	42,2±1,5	70,3	-17,8

According to the table 5, the daily ration of schoolchildren can be seen from the hygienic analysis of the level of consumption of vitamins in winter, the consumption rate of retinol was 76,7%, the amount of thiamine was 75,0%, pyridoxine 875,0% and the consumption rate of calciferol was 84,0%, the consumption rate of tocopherol was 77,6%, and the A sharp decrease in the amount of vitaminstiradi reduces the absorption of essential nutrients among schoolchildren. A sharp increase in the number of certain vitamins in the spring season is carried out as a result of the addition of some products to their daily ration. These occur mainly as a result of the beginning of spring with the addition of a noun, Greens, mint. The amount of vitamins contained in food products, which schoolchildren consume in the spring season, is listed in Table 6.

Table 6

The level of consumption of vitamins in the composition of food products consumed by schoolchildren in spring

№	Name of product	Physiological norm	Consumption rate	%, difference	g, difference
1	Retinol	700,0	558,9±18,6	79,84	-141,1
2	Thiamine, mg	1,2	0,96±0,03	80	-0,24
3	Pyridoxine	1,6	1,3±0,04	81,5	-0,3
4	Cyanocobalamin,mcg	2,0	1,2±0,04	60	-0,8
5	calciferol, mcg	2,5	2,0±0,06	80	-0,5
6	Tocopherol, mg	10,0	6,95±0,23	69,5	-3,05
7	ascorbic acid	60,0	49,36±1,6	82,26	-10,64

As shown in Table 6, the daily ration of schoolchildren can be seen from the hygienic analysis of the level of consumption of vitamins in the spring season, the consumption rate of retinol was 79,84%, the consumption rate of thiamine and calciferol was 80%, the consumption rate of tocopherol was 69,5%, and the minimum amount of vitamin V12 was 60%. It is worth noting that the controlled school does not comply with the established physiological normative students of the winter-spring season diet regime of schoolchildren. The fact that the bulk of the daily energy value is enriched in the calculation of carbs, the energy value in the spring season is not in line with hygienic requirements, the lack of animal proteins and fats in the main nutrients, the lack of a number of vitamins, the disruption of the agenda and healthy nutrition of students, the disruption of the educational process

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Conclusion

1. Schoolchildren nutrition in the winter and spring seasons of the year does not correspond to hygienic requirements, that is, the established breakfast, second breakfast, lunch, tolma tea and dinner have sharp differences in the ratio of percentages.
2. In the composition of the daily ration, the amount of flour, bread, rice and macron products, confectionery products, sugar, as well as soups, cereals, margarine and tomato, included in the group of bread and products, is sharply increased in winter and spring seasons. And the amount of groats is sharply reduced and does not correspond to physiological normative indicators. Cereals were consumed 53,3% less than in the spring season to 33,3% in winter.
3. In the daily ration, the amount of meat, fish and dairy products is also low consumption, although in winter meat products are low by 40-58,3%, in the spring season they are provided from 35,8 to 80%, however, despite the fact that the amount of poultry meat increases in the spring season, it is less than the normative indicators.
4. The amount of vegetables and fruits is not sufficiently provided even in the winter and spring seasons, while the amount of melons products has decreased from winter season to winter season, in the spring season only the amount of greens is provided in excess of 25%.
5. The rate of consumption of proteins was 85,4% in winter, of which animal proteins 76,8%, vegetable proteins 99,6%, the amount of fats 71,1%, animal fats 62,5%, vegetable oils 96,0%, the amount of carbs to 116,3%, in the spring season 82,5%, animal proteins 73,5%, vegetable proteins 114,8%, the amount of fats 64,4%, animal
6. The amount of vitamins in the daily ration was consumed in winter from 67,0-87,5%, in the spring-from 60,0 to 82,2% less than the established normative level.

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ВЛИЯНИЕ ГЕПАТОПРОТЕКТОРНОЙ ТЕРАПИИ НА ФУНКЦИОНАЛЬНОЕ СОСТОЯНИЕ ПЕЧЕНИ У БОЛЬНЫХ, ПЕРЕНЕСШИХ COVID-19

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Резюме

Цель исследования: изучить влияние гепатопротекторов на функциональные изменения печени влияние функциональное состояние печени в раннем реабилитационном периоде COVID-19.

Материалы и методы исследования. Под наблюдением находились 243 больных, перенесших COVID-19 в возрасте 18-60 лет. Критериями включения в исследовании были: перенесенный не ранее 10 дней до включения в исследование COVID-19; на момент включения в исследование ПЦР-негативный COVID-19, отрицательные ПЦР и маркеры репликации вирусов гепатитов. В качестве контрольной группы (КГ) обследованы 20 здоровых добровольцев. Определялись ферменты в сыворотке крови аланинаминотрансфераза (АЛТ), аспартат аминотрансфераза (АСТ), гамма глутамил аминотрансфераза (ГГТ), лактатдегидрогеназа (ЛДГ), щелочная фосфотаза (ЩФ), билирубин общий и прямой, альбумин. Все больные были распределены на 4 группы: группа 0 – группа (n=60) – терапевтическая тактика без применения гепатопротекторов; группа УДХ (n=61) – в состав терапии включена УДХ; группа ГФ (n=63) – в состав терапии включены глицирризиновая кислота и фосфолипиды в виде таблеток «Фосфоглив; группа А (n=59) – в состав терапии дополнительно включен адеметеонин. Контрольное обследование проводили через месяц.

Заключение. У больных, перенесших COVID-19, в раннем реабилитационном периоде отмечается структурно-функциональные изменения гепатобилиарной системы. На фоне применения реабилитационных мероприятий выраженность признаков поражения печеночной паренхимы достоверно снижается. Применение гепатопротекторов позволяет увеличить положительный эффект реабилитации на выраженность маркеров цитолитического и холестатического синдромов. Наиболее выраженный эффект в отношении активности АЛТ и концентрации общего и прямого билирубина оказывает урсодезоксихолевая кислота по сравнению с фосфоглифом и адеметионином.

Ключевые слова: Влияние гепатопротекторной терапии, функциональное состояние печени у больных, перенесших Covid-19.

INFLUENCE OF HEPATOPROTECTOR THERAPY ON THE FUNCTIONAL STATE OF THE LIVER IN PATIENTS AFTER COVID-19

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Resume

The purpose of the study: to study the effect of hepatoprotectors on functional changes in the liver and the impact on the functional state of the liver in the early rehabilitation period of COVID-19.

Materials and research methods. Under observation were 243 patients who underwent COVID-19 at the age of 18-60 years. Inclusion criteria in the study were: transferred no earlier than 10 days prior to entry into the COVID-19 study; at the time of inclusion in the study PCR-negative COVID-19, negative PCR and markers of replication of hepatitis viruses. As a control group (CG), 20

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healthy volunteers were examined. Serum enzymes were determined: alanine aminotransferase (ALT), aspartate aminotransferase (AST), gamma glutamyl aminotransferase (GGT), lactate dehydrogenase (LDH), alkaline phosphatase (AP), total and direct bilirubin, albumin. All patients were divided into 4 groups: group 0 - group (n=60) - therapeutic tactics without the use of hepatoprotectors; UDC group (n=61) – therapy included UDC; GF group (n=63) – therapy included glycyrrhizic acid and phospholipids in the form of Phosphogliv; group A (n=59) – ademeteonin was additionally included in the therapy. The control examination was carried out in a month. Conclusion. Structural and functional changes in the hepatobiliary system are noted in patients who have undergone COVID-19 in the early rehabilitation period. Against the background of the use of rehabilitation measures, the severity of signs of damage to the hepatic parenchyma significantly decreases. The use of hepatoprotectors allows to increase the positive effect of rehabilitation on the severity of markers of cytolytic and cholestatic syndromes. Ursodeoxycholic acid has the most pronounced effect on ALT activity and the concentration of total and direct bilirubin compared to phosphoglyph and ademethionine.

Keywords: Influence of hepatoprotective therapy, functional state of the liver in patients after Covid-19.

COVİD-19 DAN KEYIN BEMORLARDA GEPATOPROTEKTOR TERAPIYASINING JIGARNING FUNKTSIONAL HOLATIGA TA'SIRI.

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Rezyume

Tadqiqot maqsadi: gepatoprotektorlarning jigardagi funktsional o'zgarishlarga ta'sirini va COVID-19 ning erta reabilitatsiya davrida jigarning funktsional holatiga ta'sirini o'rganish.

Materiallar va tadqiqot usullari. Kuzatuvda 18 yoshdan 60 yoshgacha bo„lgan 243 nafar bemor COVID-19 bilan kasallangan. Tadqiqotga qo'shilish mezonlari: COVID-19 tadqiqotiga kirishdan kamida 10 kun oldin o'tkazilgan; tadqiqotga kiritish vaqtida PCR-salbiy COVID-19, salbiy PCR va gepatit viruslari replikatsiyasining markerlari. Nazorat guruhi (CG) sifatida 20 nafar sog'lom ko'ngillilar tekshirildi. Opredelyalis fermenti v syvorotke krovinalininaminotransferaz (ALT), asartat aminotransferaz (AST), gamma glutamil aminotransferaza (GGT), laktaddegidrogenaz (LDG), shchelochnaya fosfotaza (shchF), bilirubin obshchiy, al-buminyam. Hammasi bo'lib 4 guruhga: guruhga 0 – guruhga (n=60) – terapevticheskaya taktika, gepatoprotektorlarsiz; guruh UDX (n=61) – v sostav terapii vklyuchena UDX; GF guruhi (n=63) – "Fosfogliv" video tabletkasida vklyucheny glitsirrizinovaya kislotasi va fosfolipidi sostavda; gruppa A (n=59) – v sostav terapii dopolnitelno vklyuchen ademeteonin. Kontrolnoe obsledovanie provodili cherez mesyats.

Xulosa. Erta reabilitatsiya davrida COVID-19 dan o'tgan bemorlarda gepatobiliar tizimdagi tarkibiy va funktsional o'zgarishlar qayd etilgan. Reabilitatsiya choralarini qo'llash fonida jigar parenximasining shikastlanish belgilarining og'irligi sezilarli darajada kamayadi. Gepatoprotektorlardan foydalanish reabilitatsiyaning sitolitik va xolestatik sindromlar belgilarining zo'ravonligiga ijobiy ta'sirini oshirishga imkon beradi. Ursodeoksixol kislotasi fosfoglif va ademetionin bilan solishtirganda ALT faolligiga va umumiy va to'g'ridan-to'g'ri bilirubin kontsentratsiyasiga eng aniq ta'sir ko'rsatadi.

Kalit so'zlar: Gepatoprotektiv terapiyaning ta'siri, Covid-19 dan keyin bemorlarda jigarning funktsional holati.

Актуальность

Новая коронавирусная инфекция - относится к семейству Coronaviridae, рода Betacoronavirus, является одноцепочечным РНК содержающим вирусом. SARS-CoV-2 является зоонозным вируомс, что следует из филогенетического анализа. Всемирная организация здравоохранения присвоила официальное название SARS-CoV-2-инфекции (COVID-19–11.02.2020) [1]. В ранее проведенных исследованиях было установлено, что MERS-CoV и SARS-CoV вызывают повреждение паренхиматозных

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органов, в особенности повреждение печени у больных с COVID-19. Механизмы повреждение печени при COVID-19 недостаточно изучены. Один из возможных факторов развитие печеночной недостаточности рассматривается вирус-индуцированное влияние на гепатоциты и холангиоциты. Так же, немаловажным фактором в прогрессирование печеночного повреждения происходить на фоне приема лекарственных средств [2,3]. По времени развития печеночной дисфункции также отмечается выраженная вариабельность: если прямое вирусное повреждение можно обнаружить в инфекционном периоде, то воспалительное и токсическое повреждение может развиваться как в остром периоде, так и в постинфекционной фазе на фоне реабилитационного периода [4,5]. На сегодняшний день клиническое значение и отдаленные последствия и терапия COVID-19 ассоциированного повреждения печени окончательно не ясны.

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Материал и методы

В исследование были включены 243 больных, перенесших COVID-19 в возрасте 18-60 лет. Мужчин было 148 и женщин 95. Критериями включения в исследовании были: перенесенный не ранее 10 дней до включения в исследование ПЦР-верифицированный COVID-19; ПЦР-верифицированный COVID-19-негативный статус на момент включения в исследование. К моменту включения в исследование маркеры репликации вирусов гепатитов и ПЦР были отрицательны, и аутоиммунные гепатиты находились в фазе ремиссии не менее 6 месяцев. В качестве контрольной группы (КГ) для получения референтых значений лабораторно-инструментальных показателей обследованы 20 здоровых добровольцев, не переносивших COVID-19 и без признаков патологии органов дыхания и гепато-билиарной зоны.

Все больные были распределены на 4 группы: группа 0 – группа активного наблюдения (n=60) – терапевтическая тактика соответственно компонентам постковидного синдрома, без применения гепатопротекторов; группа УДХ (n=61) – в состав терапии дополнительно включена УДХ в виде капсул «урсосан 250мг» в дозе 10мг/кг; группа ГФ (n=63) – в состав терапии дополнительно включены глицирризиновая кислота и фосфолипиды в виде таблеток «Фосфоглив 35+65мг» 6 табл в сутки; группа А (n=59) – в состав терапии дополнительно включен адеметеонин в виде таблеток, покрытых кишечно растворимой оболочкой «Гептрал 400мг» 2 табл в сутки. Контрольное обследование проводили через месяц.

Ферменты в сыворотке крови аланинаминотрансфераза (АЛТ), аспартат аминотрансфераза (АСТ), гамма глутамил аминотрансфераза (ГГТ), лактат дегидрогеназа (ЛДГ), щелочная фосфотаза (ЩФ), билирубин общий и прямой, альбумин определялись на автоматическом анализаторе BS-200.

Все данные, полученные в исследовании, заносились в сводные таблицы Excell. После распределения данных по группам сравнения рассчитывались групповые средние и их стандартные ошибки. Динамическое сравнение проводилось с использованием парного критерия Стьюдента.

Результат и обсуждение

Для оценки функционального состояния печени определяли маркеры цитолитического синдрома: АЛТ, АСТ, ЛДГ. Активность этих ферментов у больных была значительно повышена по сравнению с КГ (табл. 1). Наиболее выраженным была элевация АЛТ – почти почти в 10 раз превышающая средние значения в КГ. Холестатический синдром оценивался по концентрации билирубина в периферической крови, которая достоверно превышала показатель, регистрируемый в КГ ($p<0,001$). Увеличение концентрации билирубина отмечалось преимущественно за счет прямой фракции (14,65±0,35ммоль/л против 1,80±0,22ммоль/л в КГ, $p<0,001$), которая составила 34,78±0,62% от общего количества билирубина. Это свидетельствуют о выраженном холестатическом синдроме, объясняемом наличием рецепторов АПФ на мембране холенгиоцитов, что делает их мишенью для прямого вирусного поражения при коронавирусной инфекции. Наблюдаемая динамика свидетельствует об реверсии патологического синдрома [6,7]. Также маркерами холестатического синдрома, используемыми в настоящем исследовании были активность в периферической крови ЩФ и ГГТ, которые были достоверно выше, чем в КГ ($p<0,001$).

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перенесших COVID-19 была снижена (p<0,001 достоверность различия с КГ) что, вероятно связано с потреблением альбумина в экссудативной фазе воспаления, пропотеванием в межклеточное пространство в связи с увеличением сосудистой проницаемости, связанной с высокой концентрацией провоспалительных медиаторов и эндотелиальной дисфункцией, а также, помимо «гиперальбуминемии потребления» снижение концентрации альбумина может быть патогенетически связано с нарушением белковосинтезирующей функцией печени, как компонента печено-клеточной недостаточности [6,8].

Сравнительный анализ динамики показателей в терапевтических группах (табл.2) показала, что при исходно сопоставимых величинах всех исследуемых биохимических маркеров, которые, как описано выше, достоверно отличались от показателей КГ и демонстрировали наличие цитолитического, холестатического синдромов и гипоальбуминемии, динамика их была, хоть однонаправленной, но для некоторых показателей различалась между группами.

Относительная динамика ЛДГ в группе А была достоверно ниже, чем в группе 0, в остальных группах изменения были сопоставимыми. Однако, такие различия в динамике, не привели к различию в достигнутых показателях: к концу периода наблюдения активность ЛДГ в сыворотке периферической крови у больных всех терапевтических групп была сопоставима.

Динамика АСТ во всех терапевтических группах была сопоставима, что привело к достижению сопоставимых результатов в конце периода наблюдения.

Относительная динамика АЛТ у группе 0 была достоверно меньшей, чем в остальных терапевтических группах (достоверность различия с группой УДХ – P<0,001, с группами А и ГФ – P<0,01). Динамика в группе УДХ достоверно превышала динамику не только в группе 0, но и в группе ГФ (p<0,05). В результате к концу периода наблюдения в группе 0 была достигнута максимальная среди всех сравниваемых групп активность фермента (p<0,001 достоверность различия со всеми остальными группами). В группе УДХ был достигнут минимальный уровень показателя (достоверность различия с группой А - P<0,05, с группой ГФ - P<0,001).

Таким образом, исследование показало меньшую выраженность цитолитического синдрома, достигнутую к концу периода наблюдения, на фоне применения УДХ, меньшую и сопоставимую – на фоне применения ГФ и А. В группе больных, перенесших COVID-19, не принимающих гепатопротекторы, эффективность реабилитации в аспекте цитолитического синдрома была минимальной.

Динамика концентрации прямого билирубина была сопоставимой во всех терапевтических группах. Как и достигнутая к концу периода наблюдения концентрация (табл. 2). Однако концентрация общего билирубина показала различия: в группе УДХ относительная динамика показателя достоверно превышала динамику в остальных группах (P<0,001 достоверность различия с остальными группами). В результате достигнутая концентрация общего билирубина в группе УДХ оказалась достоверно меньшей, чем в остальных группах (P<0,01 достоверность различия с группой 0 и P<0,05 – с группами ГФ и А).

Относительная динамика активности ГГТ у больных, не принимавших гепатопротекторы (группа 0), была меньшей, чем в остальных группах (P<0,001 достоверность различия с остальными группами). В результате к концу периода наблюдения активность в периферической крови в группах применения гепатопротекторов достигнуты сопоставимые значения активности ГГТ в периферической крови, которые были ниже, чем в группе 0 (P<0,001 достоверность различия группы 0 со всеми остальными группами). Относительная динамика активности ЩФ в периферической крови была максимальной в группе А (P<0,001 достоверность различия с группами 0 и ГФ и P<0,05 достоверность различия с группой УДХ). В группе УДХ относительная динамика достоверно превышала динамику в группах 0 и ГФ (P<0,001), а в группе ГФ – большей, чем в группе 0 (P<0,001). В результате, несмотря на статистически достоверные отличия относительной динамики активности ЩФ в сыворотки периферической крови, к концу периода наблюдения было достигнуто достоверное различие между группами 0 и УДХ с преимуществом у больных группы УДХ (P<0,001). Таким образом, анализ динамики маркеров холестатического синдрома показал преимущество применения изучаемых гепатопротекторов над наблюдательной тактикой, а среди гепатопротекторов – преимущество УДХ над ГФ и А и преимущества А над ГФ.

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Таблица 1

Биохимические показатели функционального состояния печени у больных, перенесших COVID-19

Показатель	КГ (n=20)	Основная группа (n=243)
АЛТ, ед/л	26,00±1,82	254,67±7,99***
АСТ, ед/л	24,85±1,09	83,07±2,04***
ГГТ, ед/л	28,10±2,33	88,32±0,93***
ЩФ, ед/л	80,75±4,57	187,84±7,25***
ЛДГ, ед/л	115,70±12,57	472,33±36,46***
билирубин общий, ммоль/л	16,95±0,69	41,78±0,60***
билирубин прямой, ммоль/л	1,80±0,22	14,65±0,35***
доля прямого билирубина, %	11,09±1,53	34,78±0,62***
Альбумин, г/л	50,20±1,77	33,70±0,48***

*Примечание: * - достоверность различия с КГ,. Один знак – P<0,05, два знака – P<0,01, три знака – p<0,001.*

Таблица 3.7

Динамика биохимических маркеров функционального состояния печени у больных в различных терапевтических группах (в числителе – исходные данные, в знаменателе – данные в конце месяца наблюдения).

показатель	Гр 0 (n=60)	Гр УДХ (n=61)	Гр ГФ (n=63)	Гр А (n=59)
ЛДГ, ед/л	372,80±56,80### / 319,57±56,82###$$$	463,11±74,18### / 409,37±73,36###$$$	557,22±91,26### / 500,65±91,25###$$$	492,44±61,65### / 437,87±61,96###$$$
АЛТ, ед/л	255,58±15,21### / 99,33±2,75###$$$	235,56±10,33### / 58,93±3,00***###$$$	262,79±17,17### / 75,22±2,39***^^^###$$$	264,85±19,91### / 71,19±2,51***^###$$$
АСТ, ед/л	86,46±3,60### / 47,48±2,09###$$$	77,71±4,01### / 40,89±1,99###$$$	80,91±4,46### / 43,33±1,99###$$$	87,46±4,11### / 45,36±1,87###$$$
ГГТ, ед/л	88,31±1,71### / 69,48±2,16###$$$	87,22±1,90### / 51,23±2,26***###$$$	88,62±1,77### / 49,61±1,81***###$$$	89,15±2,09### / 50,14±2,13***###$$$
ЩФ, ед/л	195,53±15,40### / 160,93±15,06###$$$	165,82±9,16### / 98,69±9,36**$$$	194,27±15,88### / 139,65±15,50###$$$	195,93±16,37### / 107,46±16,01$$$
Амилаза, ед/л	122,65±8,24### / 41,51±4,02###$$$	146,21±9,33### / 52,13±4,73#$$$	147,10±9,57### / 53,59±4,58$$$	145,66±8,83### / 51,92±4,40#$$$
билирубин общий, ммоль/л	41,75±1,21### / 25,71±1,37###$$$	41,96±1,21### / 18,81±1,13**$$$	41,58±1,16### / 24,30±1,28^###$$$	41,82±1,22### / 23,15±1,13^###$$$
билирубин прямой, ммоль/л	14,45±0,65### / 3,93±0,15###$$$	14,21±0,73### / 3,18±0,14**###$$$	14,56±0,64### / 3,78±0,17^###$$$	15,38±0,76### / 3,63±0,15###$$$
Альбумин, г/л	34,53±1,02### / 53,68±1,10$$$	33,75±1,01### / 53,16±1,03$$$	33,60±0,88### / 53,19±0,95$$$	32,92±0,95### / 52,34±0,97$$$
Креатинин, мкмоль/л	78,08±3,48 / 70,00±4,72$	81,23±3,72 / 65,00±3,46#$$$	81,86±3,16# / 68,33±3,57$$$	82,92±3,89# / 66,69±3,78$$$

*Примечание: * - достоверность различия с группой 0, ^ - достоверность различия с группой УДХ, @ - достоверность различия с группой ГФ, # - достоверность различия с КГ, $ - достоверность различия с исходными данными. Один знак - P<0,05, два знака - P<0,01, три знака – P<0,001.*

Заключение

У больных, перенесших COVID-19, в раннем реабилитационном периоде отмечается структурно-функциональные изменения гепатобилиарной системы. На фоне применения реабилитационных мероприятий выраженность признаков поражения печеночной паренхимы достоверно снижается.

Применение гепатопротекторов позволяет увеличить положительный эффект реабилитации на выраженность маркеров цитолитического и холестатического синдромов. Наиболее выраженный эффект в отношении активности АЛТ и концентрации общего и прямого билирубина оказывает урсодезоксихолевая кислота по сравнению с фосфоглифом и адеметионином.

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MANAGEMENT AND CLINICAL FEATURES OF NEWBORNS BORN FROM COVID-19 POSITIVE MOTHERS

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Resume

During the current coronavirus disease 2019 (COVID-19) pandemic caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), newborns are at risk of acquiring SARSCoV-2 infection from their infected mothers. Some publications in China, where the first cases on the subject were seen, have been reported that the mother and the baby should be followed separately After developments, some institutions do not recommend the separation of mother and baby routinely. In this study we retrospectively analyzed clinical data of management and clinical features of newborns born from COVID-19 positive mothers.

Objective. To evaluate the routine management tactics (mother and child weren`t separate) and vertical transmission of infection in newborns born to positive Covid-19 mothers.

Materials and methods. Retrospective review of clinical records of all deliveries with laboratory confirmed Covid-19 infected mothers (nasopharyngeal swab) and their newborns. Study performed in 2 repurposed places: Tashkent Perinatal center and delivery hospital №3, from March 2,2020 to October 31,2020. Clinical records of 154 mothers and 155 newborns were analyzed. Newborns where also tested for Covid-19 within 24 h of delivery.

Results. Median mother's age was 27,5 (19-36). All mothers were assessed at perinatal centre for current symptoms of fever, cough, anosmia, shortness of breath, and diarrhoea. The most commonly described symptoms were fever 60/154 (39%), cough 76/154 (48,7%) and shortness of breath 20/154 (13%). Pregnant woman showed mild 97(62, 9%) and moderate 38 (24, 6%) signs of the infection. Skin to skin contact were performed in 148 cases (95,4%).137 newborns (87,7%) stayed with their mothers immediately after birth. Studied 143 neonates (92,2%) were breastfed by mother, including alternative methods of feeding.

Keywords*: *Covid, coronavirus, covid-19, mothers, management, breastfeeding, skin to skin, cord clumping, resuscitation, nasopharyngeal swab, infection control.

COVİD-19 POZİTİV ONALARDAN TUG'ILGAN YANGI TUG'ILGAN BO'SHQARISH VA KLINIK XUSUSIYATLARI

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Tibbiyot xodimlarining malakasini oshirish Markazi

Rezyume

Koronavirus 2 (SARS-CoV-2) yangi og'ir o'tkir respirator sindromi keltirib chiqaradigan joriy koronavirus kasalligi 2019 (COVID-19) pandemiyasi davrida yangi tug'ilgan chaqaloqlar SARSCoV-2 infektsiyasini yuqtirgan onalaridan yuqtirish xavfi ostida. Mavzu bo'yicha birinchi holatlar ko'rilgan Xitoyda ba'zi nashrlarda ona va chaqaloqni alohida kuzatish kerakligi haqida xabar berilgan. O'zgarishlardan so'ng, ba'zi muassasalar ona va chaqaloqni muntazam ravishda ajratishni tavsiya etmaydi. Ushbu tadqiqotda biz COVID-19 musbat onalardan tug'ilgan yangi tug'ilgan chaqaloqlarni boshqarish bo'yicha klinik ma'lumotlarni va klinik xususiyatlarini retrospektiv tahlil qildik.

Maqsad. Muntazam boshqarish taktikasini (ona va bola alohida emas edi) va ijobiy Covid-19 onalaridan tug'ilgan yangi tug'ilgan chaqaloqlarda infektsiyaning vertikal uzatilishini baholash.

Materiallar va usullar. Laboratoriya tomonidan tasdiqlangan Covid-19 bilan kasallangan onalar (nazofarengeal tampon) va ularning yangi tug'ilgan chaqaloqlari bilan barcha tug'ilishlarning klinik yozuvlarini retrospektiv ko'rib chiqish. O'qish 2 ta qayta tiklangan joyda: Toshkent perinatal markazi va 3-sonli tug'ruq shifoxonasi, 2020-yil 2-martdan 31-oktabrgacha. 154 nafar ona va 155

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nafar yangi tug'ilgan chaqaloqning klinik qaydlari tahlil qilindi. Yangi tug'ilgan chaqaloqlar tug'ilgandan keyin 24 soat ichida Covid-19 uchun sinovdan o'tkazildi.

Natijalar. Onaning o'rtacha yoshi 27,5 (19-36) edi. Barcha onalar perinatal markazda hozirgi isitma, yo'tal, anosmiya, nafas qisilishi va diareya belgilari uchun baholandi. Eng ko'p tavsiflangan alomatlar isitma 60/154 (39%), yo'tal 76/154 (48,7%) va nafas qisilishi 20/154 (13%) edi. Homilador ayolda infektsiyaning engil 97 (62, 9%) va o'rtacha 38 (24, 6%) belgilari aniqlangan. 148 ta holatda (95,4%) teriga teginish amalga oshirildi. 137 ta yangi tug'ilgan chaqaloq (87,7%) tug'ilgandan so'ng darhol onalari bilan qoldi. O'rganilgan 143 ta yangi tug'ilgan chaqaloq (92,2%) onasi ko'krak suti bilan oziqlangan, shu jumladan muqobil oziqlantirish usullari.

Kalit so'zlar: Covid, coronavirus, covid-19, onalar, boshqarish, emizish, teridan teriga, shnurning to'planishi, reanimatsiya, nazofarengeal tampon, infektsiyani nazorat qilish.

ВЕДЕНИЕ И КЛИНИЧЕСКИЕ ОСОБЕННОСТИ НОВОРОЖДЕННЫХ ОТ COVID-19 ПОЛОЖИТЕЛЬНЫХ МАТЕРЕЙ

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Резюме

Во время нынешней пандемии коронавирусной болезни 2019 (COVID-19), вызванной новым коронавирусом тяжелого острого респираторного синдрома 2 (SARS-CoV-2), новорожденные подвергаются риску заражения SARSCoV-2 от инфицированных матерей. В некоторых публикациях в Китае, где были замечены первые случаи по этому вопросу, сообщалось, что мать и ребенок должны наблюдаться отдельно. После развития событий некоторые учреждения не рекомендуют рутинно разлучать мать и ребенка. В этом исследовании мы ретроспективно проанализировали клинические данные ведения и клинические особенности новорожденных, рожденных от матерей с положительным результатом на COVID-19.

Цель. Оценить рутинную тактику ведения (мать и ребенок не раздельно) и вертикальную передачу инфекции у новорожденных, рожденных от матерей, инфицированных Covid-19.

Материалы и методы. Ретроспективный обзор историй болезни всех родов у матерей, инфицированных Covid-19 лабораторно (мазок из носоглотки) и их новорожденных. Исследование проводилось в 2-х перепрофилированных учреждениях: Ташкентский перинатальный центр и родильный дом №3, со 2 марта 2020 г. по 31 октября 2020 г. Проанализированы истории болезни 154 матерей и 155 новорожденных. Новорожденных также проверяли на Covid-19 в течение 24 часов после родов.

Результаты. Медиана возраста матери составила 27,5 лет (19-36 лет). Все матери были обследованы в перинатальном центре на наличие текущих симптомов лихорадки, кашля, аносмии, одышки и диареи. Наиболее часто описываемыми симптомами были лихорадка 60/154 (39%), кашель 76/154 (48,7%) и одышка 20/154 (13%). У беременных выявлены легкие 97 (62,9%) и среднетяжелые 38 (24,6%) признаки инфекции. Контакт кожа к коже осуществлялся в 148 случаях (95,4%). 137 новорожденных (87,7%) оставались с матерями сразу после рождения. Обследовано 143 новорожденных (92,2%), находившихся на грудном вскармливании матерью, в том числе альтернативными способами вскармливания.

Ключевые слова: Covid, коронавирус, covid-19, матери, ведение, грудное вскармливание, кожа к коже, слипание пуповины, реанимация, мазок из носоглотки, инфекционный контроль.

Importance

Limited data on vertical and perinatal transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and health outcomes of neonates born to mothers with symptomatic or asymptomatic coronavirus disease 2019 (COVID-19) are available. [3] Studies are needed to inform evidence-based infection prevention and control (IP&C) policies. However, the question remains controversial, as IgM antibodies have been detected in newborns

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from mothers with COVID-19. [4] This review aims to consolidate the currently available scientific evidence describing perinatal and neonatal outcomes in newborns born from SARS-CoV-2 positive mothers.

Introduction

The new corona virus infection was detected in China for the first time in December 2019 and gradually spread all over the world. On March 11th 2020, COVID-19 was pronounced as pandemic by World Health Organization [7].

During the current coronavirus disease 2019 (COVID-19) pandemic caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), newborns are at risk of acquiring SARS-CoV-2 infection from their infected mothers [3]. Some publications in China, where the first cases on the subject were seen, have been reported that the mother and the baby should be followed separately [5].

After developments, some institutions do not recommend the separation of mother and baby routinely [6]. In this study we retrospectively analyzed clinical data of management and clinical features of newborns born from COVID-19 positive mothers.

Methods and materials

From epidemiological update WHO for 7th of September, 2020 number of COVID-19 confirmed cumulative cases were 43 476 and deaths 343 in Uzbekistan [7]. Progressive growth of patients with Covid-19 led to an increase the number of pregnant women infected with Covid-19.

We retrospectively reviewed clinical records, laboratory findings of all deliveries with laboratory confirmed Covid-19 infected mothers (nasopharyngeal swab) and their newborns. Newborns where also tested for Covid-19 within 24 h of delivery.

Study performed in 2 repurposed places: Tashkent Perinatal center and delivery hospital № 3, from March 2, 2020 to October 31, 2020. We had analyzed 154 mothers and 155 newborns clinical records. Median mother's age was 27,5 (19-36). Median gestational age was 38 ±0,05 weeks (*R=14, σ=2,04*)

Delivery management

In China, where the disease first spread, it has been reported that the mode of delivery in pregnant women with COVID-19 was predominantly done by cesarean section [7]. The World Health Organization recommends that cesarean delivery in COVID-19 pregnant women should be performed according to the week of gestation, the severity of the mother's disease and fetal viability, as well as providing medical necessity [8].

All mothers were assessed at perinatal center for current symptoms of fever, cough, anosmia, shortness of breath, and diarrhea. The most commonly described symptoms were fever 60/154 (39%) , cough 76/154 (48,7%) and shortness of breath 20/154 (13%). Pregnant woman showed mild 97 (62,9%) and moderate 38 (24,6%) signs of the infection. A total cesarean section rate was 33,7%. (**table1**).

There were PROM in 7 cases (4,54%), placenta previa in 2 cases (1,3%), intra-amniotic infection in 1case (0,64%), pregestational diabetes in 1 case (1,3%), gestational diabetes in 1 case (1,3%), myocarditis in pregnancy in single case (0,64%).

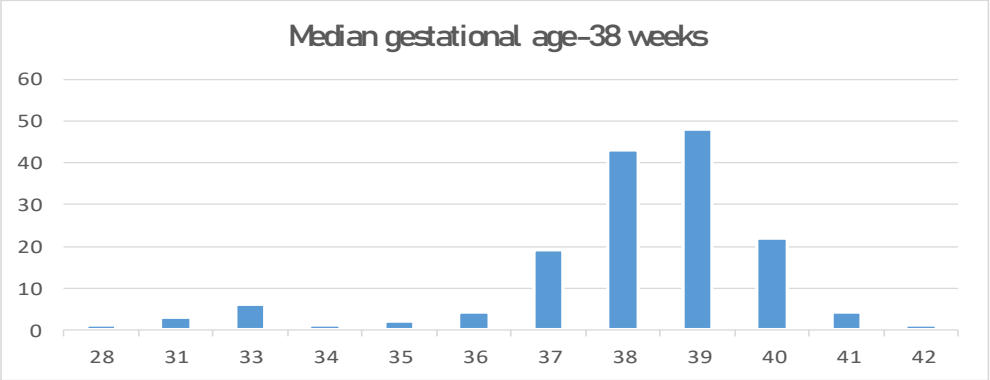

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Table1

Features	N=155	%
Gender (male/Female)	80/75	51.6/48,4
Caesarean section	52/102	33,7
preterm / term birth	17/138	10,96/89,04
Low birth weight	15/140	9,6
Delayed cord clumping	142/155	91,6
Skin to skin	127/155	81,9
Special care (due to condition)	28/155	18
Breastfeeding	143/155	92,2
Stayed with mother	122/155	78,7
Positive Covid-19 test (nasopharyngeal swab)	5/110 tested	4,5

Delayed cord clumping and skin to skin management.

Unless otherwise contraindicated, practices continued to include delayed cord clamping, vaginal delivery (including in severe COVID-19 illness), mother-infant skin-to-skin contact, and direct breastfeeding after appropriate hand and breast hygiene (consisting of washing hands and breast with soap and water) [1]. In our practice about 91,6% cases had delayed cord clumping. Cord was cut 1-3 minutes after birth. All mothers pay attention for hygiene and wearied a surgical mask.

ILCOR recommendations from 2015 states that there is insufficient evidence to recommend an appropriate time for clamping the cord in babies who require resuscitation at birth [12]. The American College of Obstetricians and Gynecologists' Committee on Obstetric Practice declare the need of immediate resuscitation of the newborn to be an indication for immediate cord clamping [13]. In 13 neonates (8,38%), born with reduced vitality, the umbilical cord were clamp and cut off as soon as it possible for further resuscitation.

Unless otherwise contraindicated, New York practices continued to include delayed cord clamping, vaginal delivery (including in severe COVID-19 illness), mother-infant skin-to-skin contact, and direct breastfeeding after appropriate hand and breast hygiene (consisting of washing hands and breast with soap and water) [16].

Retrospective review showed that, as in routine practice, skin-to-skin contact was made in 148 cases, which amounted to 95,4%. Bathing babies were performed only 2 hours after birth [11].

Breastfeeding management.

The World Health Organization and Centers for Disease Control and Prevention (CDC) report that the mother can breastfeed the baby when appropriate conditions are provided to prevent transmission [9]. CDC reported that the mother should express her milk with a milk pump after proper hand hygiene is provided and that the milk can be given to the baby with a feeding bottle by a healthy healthcare worker, when the baby is temporarily separated from the mother after birth to reduce contagiousness. The mother should strictly pay attention for hand hygiene before, during and after milking, and the milk pump should be disinfected before and after each milking. If the mother and baby should be cared in the same room, the baby should be at least 2 meters (6 feet) away, the mother should wear a surgical mask if she wants to breastfeed, and should ensure proper hygiene of her hands, body surface (breast) and objects that will touch the baby before each breastfeeding [10].

Studied 143 neonates (92,2%) were breastfed by mother, including alternative methods of feeding. They were kept in the same room with their mothers (distance 2 meters), and were held by mothers for feeding after hand hygiene, breast cleansing, and placement of a surgical mask. 13 neonates weren`t breastfeed, due to maternal and newborn`s status.

Infection control

A SARS-CoV-2 test were performed within 24 hours after birth (nasopharyngeal swab). 5 newborns with positive Covid-19 test results (3,2%) were immediately isolate.105 newborns had negative Covid-19 test results (67,7%), 45 newborns had unknown status (29%). The initial test results of 3 newborns (1,9%) were ruled

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invalid, these newborns were retested and the results were negative.

The quarantine room should be equipped with an isolated air cycle system and, given SARS-CoV-2 high infectivity, negative pressure isolation rooms are recommended, albeit rarely available [14]. Clinical features of infected newborns, especially preterm infants, might be non-specific and include acute respiratory distress syndrome, temperature instability, gastrointestinal and cardiovascular dysfunction. All infants with suspected COVID-19 should be isolated and monitored, whether symptomatic or not [15]. Due to the lack of appropriate conditions in our country, neonates were isolated in a single ordinary quarantine rooms for at least 14 days. Healthcare workers entered the room with all protective equipment. Vital signs of newborns were monitored: heart rate, respiratory rate, oxygen saturation, temperature and blood pressure. All rooms were equipped with monitoring equipment, transport supplies, and first aid medicine. After repeated examination 36 hours later, 1 newborn had a negative PCR result.

All infants born to mothers with positive SARS-CoV-2 infection had favorable outcomes. They were asymptomatic. Visiting newborns with COVID-19 weren't allowed. RT-PCR tests performed on placental tissue, umbilical cord blood, and breast milk were all negative.

NICU management. 28 (18,0%) neonates were admitted to the neonatal intensive care unit (NICU) for further treatment. 8 neonates required NICU admission for primary diagnoses of respiratory distress (28.5%), 1 for sepsis concerns (3,5%), 13 for asphyxia (46,4%), 1 for congenital malformation (3,5%) and 3 for transient tachypnea of the newborn. Apgar scores at both 1 and 5 min ranged from 3 to 8. **(table 2)**. All newborns had negative PCR results on Covid-19.

Gestational age	37,6±0,09
Birthweight	2636±0,384
Gender (male/female)	53,5 / 46,5%
PCR test negative	100%
APGAR score range	3-8
Asphyxia	46,4%

Median age of the newborns concluded 37,6 weeks. *R=13,7*. Eight neonates had birth weight < 2500 g (28,5%). 27 neonates in the NICU (63.2%) required respiratory support, 15 of them, got noninvasive oxygen supply by nasal cannula (53,5%), 12 had NCPAP (42,8%) and only 1 had MV (3,5%). Median number days on respiratory support 4,1. **(table 3).**

Respiratory condition	*Pneumonia*	*RDS*	*RDS+ AOP*
	7(25%)	*8(28,5%)*	*2(7,1%)*
Resp. support / days	*Nasal canula*	*NCPAP*	*MV*
	15(53,5%)	*12(42,8%)*	*1(3,5%)*
Median days on PN	*4±0,73*		
Median days on a/b therapy	*7±0,54*		
IVH/HIE	*IVH*	*HIE*	
	11(39,2%)	*5(17,8%)*	
Feeding (alternative)	*Breastmilk*	*Formula*	
	18 (64,3%)	*10 (35,7%)*	
Median days in NICU	*7,1*		

The median hospitalization time was 7,1 days. 24 newborns had parenteral nutrition (85,7%). A total number of IVG (Grade1,2) were 11 (39,2%).

Conclusion

The carried-out analysis showed that, it is not correct to state that the possibility of vertical transmission of Covid-19 has been definitely confirmed nor excluded, further high-quality research is needed. Despite the fact, that newborns were left with their mothers after birth, mothers with SARS-CoV-2 infection rarely transmit the virus to their newborns when basic infection-control practices are followed.

A retrospective study on the experience of Uzbekistan, where delayed cord clamping, skin-to-skin contact and joint stay with the mother was

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carried out, did not lead to a case of postnatal transmission of the disease.

Despite the fact, those PCR positive children had a favorable outcome and good general condition, the number of total morbidity (18%) in newborns born to Covid-19 positive mothers was high. Maternal hypoxemia and fever caused by Covid-19 infection can lead to fetal distress, premature delivery and congenital pneumonia. The number of premature newborns born from Covid-19 positive mothers were also high (11, 6%).

The number of intraventricular hemorrhages was significantly higher, which may be associated with anticoagulant therapy for pregnant women with COVID19.

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CARDIAC RHYTHM AND CONDUCTION CHARACTERIZATION IN CHILDREN WITH TYPE I DIABETES MELLITUS WITH POSTCOVID SYNDROME

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Resume

Purpose of the study is to determine the diagnostic significance of instrumental ECG research methods for the detection of diabetic autonomous cardiovascular neuropathy in children with type 1 diabetes mellitus.

Materials and methods study: the total number of patients studied by us was 114 children with type 1 diabetes mellitus aged 4 to 18 years. We conducted clinical and instrumental research methods. General (collection of history of complaints), instrumental (Holter ECG),

Results: CRV (a measure of autonomic cardiovascular function) CRV (a measure of autonomic cardiovascular function) was lower in children with DM 1 compared to the control group and lower in children with type 1 DM with post-vascular syndrome compared to DM 1, the temporal area is considered a marker of parasympathetic function. And these results suggest that it can be detected early before any symptom manifestation and when routine tests are still normal

Keywords: type 1 diabetes mellitus, postcovid syndrome diabetic autonomous cardiovascular neuropathy, Holter ECG, complication.

ХАРАКТЕРИСТИКА СЕРДЕЧНОГО РИТМА И ПРОВОДИМОСТИ У ДЕТЕЙ С САХАРНЫМ ДИАБЕТОМ I ТИПА С ПОСТКОВИДНЫМ СИНДРОМОМ

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Резюме

Цель определить диагностическое значение инструментальных методов исследование ЭКГ для выявление диабетической автономной кардиоваскулярной нейропатии у детей с сахарным диабетом 1 типа с постковидным синдромом.

Материалы и методы: общее число больных исследованные нами составило 114 детей с сахарным диабетом 1 типа в возрасте от 4 до 18 лет. Нами проводилось клинико и инструментальные методы исследование. общеклинические (сбор анамнеза жалоб), инструментальные (Холтер ЭКГ),

Результаты: ВСР (показатель вегетативной функции сердечно-сосудистой системы) была ниже у детей с СД1 по сравнению с контрольной группой и ниже у детей с СД 1 типа с постковидным синдромом по сравнению с СД1, временная область считается маркером парасимпатической функции, и эти результаты предполагают, что ее можно обнаружить на ранней стадии до любого проявления симптомов и когда обычные тесты все еще в норме.

Ключевые слова: сахарный диабет I типа, постковидным синдромом диабетическая автономная кардиваскулярная нейропатия, Холтер ЭКГ, осложнение

ПОСТКОВИД СИНДРОМИДАН СЎНГ I ТУР ҚАНДЛИ ДИАБЕТ БИЛАН КАСАЛЛАНГАН БОЛАДАРДА ЮРАК РИТМИ ВА ЎТКАЗУВЧАНЛИГИНИ ЎЗИГА ХОС ХУСУСИЯТЛАРИ

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Резюме

Тадқиқод мақсади: постковидсиндром билан I - тур қандли диабет билан касалланган болаларда диабетик автоном кардиоваскуляр нейропатияни ЭКГ ѐрдамида ташхислашни диагностик

аҳамияти

Материал ва усуллар: I - тур қандли диабет билан касалланган 114 нафар болаларни клиник(шикояти, анамнез) ва инстументал (Холтер ЭКГ) усуллар ѐрдамида текширилди.

Хулоса: Юрак ритмининг вариабиллиги назорат гурухдаги болаларга нисбатан 1 тур қандли диабет билан касалланган болаларда пасайганлиги хамда постковид синром билан бўлган 1 тур қандли диабетли болаларда пасайганлиги аниқланди, бу эса ўз ўрнида хали касаллик бошқа симптомлари намоѐн бўлмасидан касалликни эрта аниқлашга ѐрдам беради.

Калит сўзлар: қандли диабет, посткид синдром, диабетик кардиоваскуляр автоном нейропатия, Холтер ЭКГ, асорат

Relevance

Diabetes mellitus (DM) is one of the main problems of scientific and practical medicine around the world [2, 3]. DM is a chronic metabolic disorder that affects all stages of childhood in a particular pathway. The manifestation of diabetes begins in the womb and affects newborns, infants, and children. Its cardiovascular complications make up a significant part of the incidence in such an active age due to metabolic disorder associated with dyslipidemia, atherosclerosis, hypertension and autonomic dysfunction. The role of hyperglycemia in establishing cardiovascular risk in the short term may not be as clinically apparent in children with diabetes compared to adults with diabetes, partly due to the greater potential regenerative capacity and more circulating progenitor endothelial cells. In young [1]. In the long term, however, evidence suggests a more detrimental role for diabetes when present at a younger age in increasing patients' vulnerability to CVD risks later in life [12].

Diabetes mellitus as a concomitant disease in COVID-19 is considered as one of the significant risk factors for developing adverse outcomes due to the more severe course of infection in hyperglycemia and other aggravating factors in these patients, such as old age, obesity, high incidence of comorbidity (arterial hypertension, cardiovascular disease) [13]. At the same time, despite the steady increase in the number of publications devoted to the analysis of various risk factors for the severe course of COVID-19 in SD and its complications, the number of contradictions regarding the management tactics of this category of patients is also progressively increasing, which is facilitated by the small volume and heterogeneity of samples in studies, as well as the high speed of information analysis. hus, verified data on the effect of various classes of sugar-lowering drugs on COVID-19 outcomes in SD are currently practically absent [14]. The fundamental issue of withdrawal or continuation of organ projective therapy/Hyperglycemia as a "provocateur" of a cytokine "storm" remains unresolved. After the introduction of the virus into the human body, it is recognized by immunocompetent cells and induction of the so-called "cytokine storm" occurs with the release of a large number of pro-inflammatory cytokines (TNF, IL-1β, IL-6, IL-8, IL-17, etc.) and chemokines (MCP1, IP10, MIP1α) [15]. Recent publications show that in conditions of influenza virus infection in patients with DM, activity of inflammatory reactions markers (C-reactive protein, level of ferritin, fibrinogen, IL-6, D-dimer) is significantly higher than in patients without DM [16]. In other words, in DM, the release of cytokines in response to viral infection occurs much more intensively than in normal carbohydrate metabolism. Why does this happen? The response was obtained in a recent study, where it was shown that the implementation of the immune response and the activity of inflammatory reactions directly depend on the provision of these processes with energy and the amount of glucose absorbed by immune cells. Increased expression of IL-6 and IL-8 in patients with viral infection showed direct dependence on high levels of glycemia [17]. Glucose is kind of a source of energy, a "fuel" for violent immunological reactions! Therefore, patients with DM with unsatisfactory glycemia control are at higher cytokine storm activity and risk of adverse outcome of viral infection.

The vegetative nervous system regulates the electrical and contractile activity of the heart through the balance between sympathetic and parasympathetic activity. Cardiovascular autonomous neuropathy (CAN) occurs in parallel with the development of peripheral neuropathy as part of neuropathy, which begins distally and

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progresses proximally. Diabetes-related CAN causes abnormalities in heart rhythm control, as well as defects in central and peripheral vascular dynamics [6]. The degree of CAN depends on the degree of glycemic control, disease duration, age-related neuronal depletion and systolic and diastolic BP [1,4].

CAN is a common complication in DM 1 and is often found in subclinical stages. Its predictive value has been demonstrated and is associated with increased morbidity and mortality. Sudden death and cardiac arrest in patients with DM 1 and DM 2 were associated with autonomic heart dysfunction. This is part of the well-studied diabetic autonomous neuropathy (DAN), which is a well-recognized complication of DM 1. It can cause various functional cardiac changes, especially a decrease in the contractility of LV and changes in ventricular repolarization. This is also due to changes in daily blood pressure changes. CAN includes both parasympathetic and sympathetic systems. There is an early parasympathetic disorder that can increase the heart rate, but as the duration of diabetes increases, a sympathetic lesion occurs that can relatively slow the heart rate [5].

The development of vegetative complications depends on the duration of diabetes, glycemic control and the age of the patient. Rapid progression of diabetic cardiovascular autonomous neuropathy (DCAN) may occur with pubertal age. Chronic hyperglycemia and microvascular disorders cause activation of certain enzymes that play an important role in progressive nerve fiber damage in long-term DM1 patients. Early neuropathic changes, such as endoneural edema or intraaxonal sodium accumulation, can be reversed by enhanced glycemic control [9].

Clinically DCAN can be found at an early stage on increase in heart rate at rest, to decrease in change of heart rate to deep breath (test for deep breath) and decrease in reaction of heart rate to standing or steady tests of hands. There was impaired parasympathetic control of heart rate in young diabetic patients, as detected by a deep breathing test. A study of heart rhythm variations during deep respiration (which tests parasympathetic function), active orthostatism (which tests sympathetic function), or Valsalva's sample, is still a benchmark. Cardiac rhythm variability (CRV) is a sensitive, reproducible, non-invasive method and is able to determine early cardiac autonomous neuropathy. Depends on the effect of sympathetic and parasympathetic activity on the sinus node and can easily be determined by 24-hour Holter records monitoring [11].

Another sign of CAN is a decrease in the enhancement of baroreflex regulation of the heart. An extension of the Q-T interval was also detected in the presence of CAN. Impaired circadian BP change with impaired nocturnal BP reduction was associated with autonomic dysfunction. Orthostatic hypotension is a late sign of a disease of the sympathetic nervous system. Children with DM also showed decreased baroreceptor sensitivity (BRS). The degree of reduction in CRV was associated with the degree of vegetative imbalance and positively correlated with disease duration [7, 8].

Purpose of the study is to determine the diagnostic significance of instrumental ECG research methods for the detection of diabetic autonomous cardiovascular neuropathy in children with type 1 diabetes mellitus with postcoid syndrome.

Materials and methods

The study was carried out on the basis of RNPMCE. We comprehensively examined 114 children from DM1 between 2017 and 2022:69 girls (60.5%) and 45 boys (39.5%) aged 4 to 18 years and the duration of the disease from 0.5 to 16 years.

On the basis of history, clinical signs and laboratory analysis results according to WHO classification and diagnostic criteria (1999), type DM1 was diagnosed.

Children with type DM1 matched to the study were assigned to study groups. Studied the effect of DM1 duration on the occurrence of cardiovascular complications by groups:

I - children SD1 (n = 65),

II - children of SD1 with postcoid syndrome (n = 49)

III is a control group (n = 30).

Among cardiovascular complications, DACN is distinguished, which causes cardiomyopathy, cardio sclerosis, heart failure, severe arrhythmias and subsequently leads to myocardial infarction in adult patients. The first stage of work was the interpretation of the data of the clinical functional examination, the results are presented in Table 1.

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Table 1.

Clinical characterization of examined children with 1type DM

parameters	primary group (n=114)	check group (n=30)
Average age (years)	12,76±3,9	13,69±3,34
Gradation by gender Boys Girls	 45 (39,5%) 69 (60,5%)	 15 (50,0%) 15 (50,0%)
Average height (cm)	146,8±19,56	160,1±15,74
Average weight (kg)	41,0±15,68	47,29±12,79
BMI (kg/m2)	17,0±2,5	18,46±2,76
Experience DM (years)	4,69±2,89	-
HbA1c (%)	10,29±1,89	

As can be seen from the table, children in the main group lagged behind in anthropometric parameters, since their average height was 13.3 cm lower, and their weight was 6.3 kg less relative to the control group. BMI in children with type 1 DM averaged 17.0 ± 2.5kg/m2, while in the control group the average BMI was 18.46 ± 2.76 kg/m2. However, the data obtained were not statistically reliable, $p > 0.05$, in relation to the indicators of healthy children from the control group.

Deviations in the rates of sexual development among children of the main group were not established, nor was there a delay in sexual development.

Glycated hemoglobin (HbA1c) in children with type 1 DM who took part in the study averaged 10.29 ± 1.89%, which indicates an unsatisfactory course of this pathology.

Results and discussion

Increasing the QT interval is recognized as a marker of electrical myocardial instability and a precursor to life-threatening ventricular arrhythmias. PQ interval Extension elongation was most common in long-term type 1 DM in children. As well as sinus tachycardia, conduction disorders, the presence of SRRW. There is a presence of flat teeth and low thickness, the severity of which depends on the duration of type 1 DM diseases.

Table 2

Characterization of electrocardiographic changes in children with type 1 DM

Ekg-indicators	Control (n =30)		groups					
			1 group (n=65)		2 group (n=49)		in total (n=114)	
	Абс	%	Абс	%	Абс	%	абс	%
Rhythm disturbances	6	20	45	69,2	39	79,6	84	73,7
Sinus tachycardia	4	13	32	49,2	26	53,1	58	50,8
Sinus bradycardia	0	0	21	32,3	22	44,8	43	37,7
SRRZH	0	0	11	17	18	36,7	29	25,4
Break. wires	5	16	25	38,4	25	51,0	50	43,8
Udlin. INT. PQ	0	0	8	12,3	20	40,8	28	24,5
NBPNPG	7	23	22	33,8	22	44,8	44	38,6
Break. repolarizations	3	10	25	38,4	21	42,8	46	40,3
Flat teeth T	0	0	12	18,4	16	32,6	28	24,5
Otritz. teeth. T	0	0	9	13,8	10	20,4	19	16,6
Nizkovoltnost	0	0	6	9,23	8	16,3	14	12,3
Increased LV activity	0	0	12	18,4	10	20,4	22	19,3

Thus, with an increase in the age of the disease, as well as when decompensation of carbohydrate metabolism occurs with Covid-19 infection in children with type 1 diabetes mellitus, the number of pathological changes on ECGs that are characterized by the presence of sinus tachycardia and disorders of repolarization processes increases.

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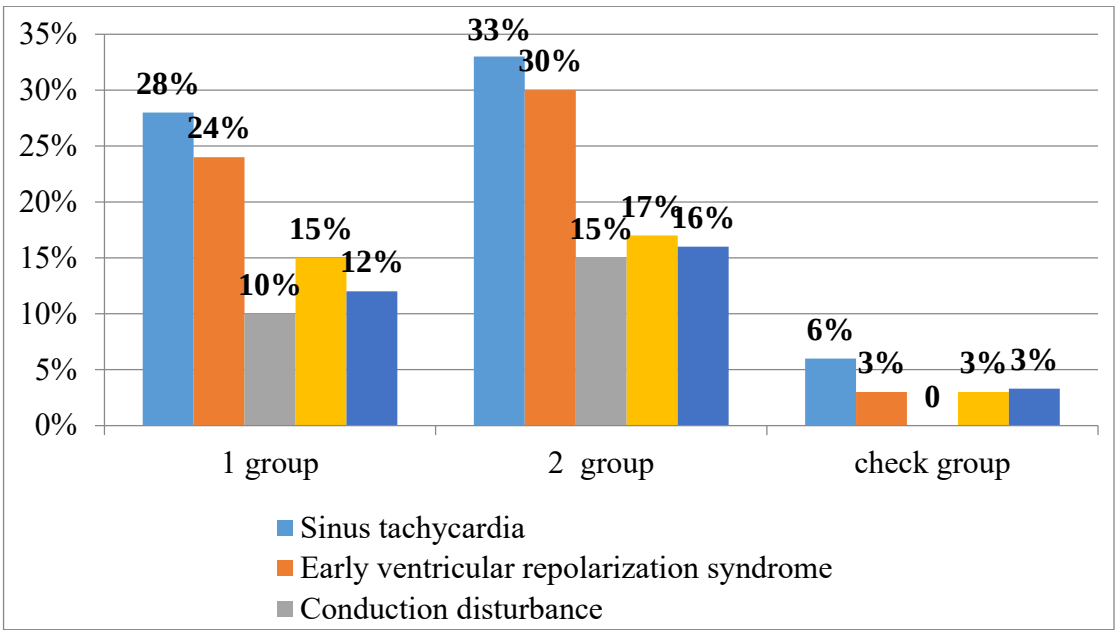

Figure. 1. The results of a standard EKG study.

A characteristic feature of ECG among children who underwent Covid-19 was their reliably frequent recording of sinus tachycardia in 33% of cases, conduction impairment in 15% cases, extension of the PQ interval in 15% cases and early ventricular repolarization syndrome (SRRW): in 29.9% of children.

The correlation relationship analysis showed a positive correlation relationship of disorders of repolarization processes with diabetes experience (g = 0.553). A direct correlation is also established depending on the presence of tachycardia in children with DM1 (g = 0.478).

Clinical and ECG studies in terms of diagnosing complications of DM are nonspecific and not informative, which is combined with literary data on the clinical manifestation of such complications in 25-40 years and the need for special diagnostic methods for DCAN and MKD in children.

ECG changes in DM1 are nonspecific, and dopplerechocardiography (DEhoKG) with the study of central hemodynamics and left ventricular diastolic function (DFLV) is of undeniable diagnostic value.

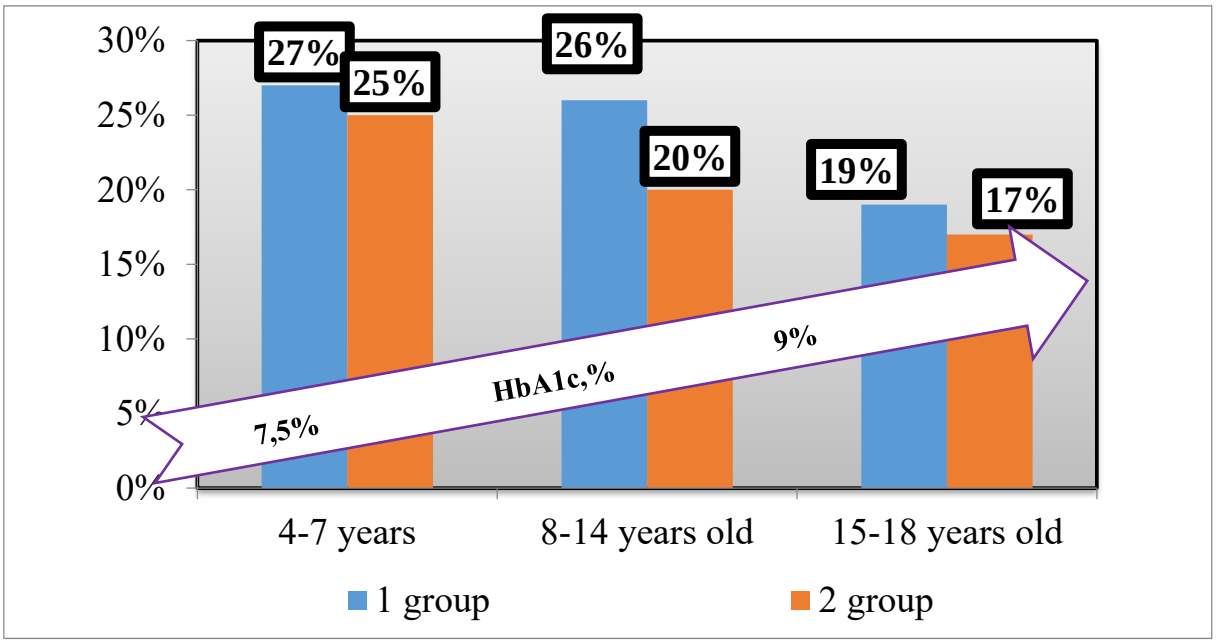

Figure. 2. CRV scores (Heart rate variability) depending on the age group of the study. pNN50, (total average) %

When determining VRS in age groups, the study determined both in the first study group and in the second group when analyzing VRS in age groups 4-7 years, 8-14 years and 15-18 years with an increase in glycated hemoglobin scores, from 7.5% to 9%, a decrease in VRS in the

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second study group. So 4-8 years old, 27% of 2 groups versus 25% of 1 group, in the age group 8-14 years old, 26% of the second group versus 20% of the first group, and in the pubertal of 15-18 years old, a decrease in pNN50 (overall average) for Holter monitoring in children with type SD1 with postcovid syndrome 38% of the second group of study versus 54% of the first group of study was also determined.

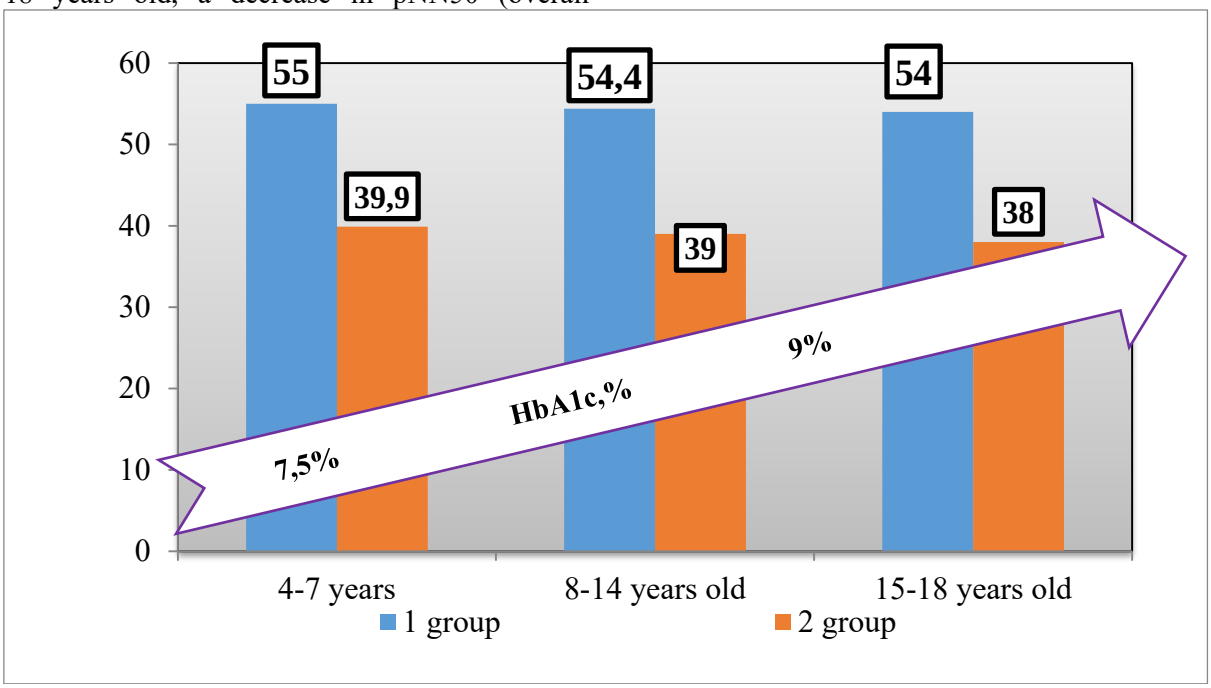

Figure. 3. CRV (Heart rate variability) depending on the age group of the study. Indicators rMSDM, (total average) ms

When determining VRS in age groups, the study determined both in the first study group and in the second group when analyzing VRS in age groups 4-7 years, 8-14 years and 15-18 years with an increase in glycated hemoglobin scores, from 7.5% to 9%, determined a decrease in VRS in the second study group. So 4-8 years old, 39.9% of 2 groups versus 55% of 1 group, in the age group 8-14 years old, 39% of the second group versus 54.4% of the first group, and in the pubertal of 15-18 years old, a decrease in such an indicator as rMSDM (general average) for Holter monitoring in children with a duration of DM1 type more than 5 years was also determined 38% of the second group of study versus 54% of the first group of study.

Conclusions

CRV (a measure of autonomic cardiovascular function) was lower in children with DM 1 compared to the control group and lower in children with type 1 DM with post-vascular syndrome compared to DM 1, the temporal area is considered a marker of parasympathetic function. And these results suggest that it can be detected early before any symptom manifestation and when routine tests are still normal.

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EFFECT OF DARMONAL AND PHYTIN COMPLEX COMPOUNDS ON CARBOHYDRATES METABOLISM AT EXPERIMENTAL TOXIC HEPATITIS

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Rezume

The aim of study was to research the effect of darmonal and phytin compounds on the amount of glycogen and lactic acid in the liver tissues.

Materials and methods. The new compounds of phytin-C were studied: phytin-C, cobalt phytate and patent substance of darmonal obtained from wheat grain cells grown under special conditions. For comparison, the bioflavonoid of plant origin Liv-52, being used in treatment of liver diseases, was also studied. The study was carried out on 60 white rats weighing 120-150 g. The toxic hepatitis was caused by subcutaneous administration of 50% carbon tetrachlormetan oil solution in dose 0.8 ml/100 g for 4 days.

Results. The results showed that the combined introduction of extract significantly enlarged the outcome at joint use drug Liv-52 in animals, and, especially such effect was noticeable with addition phytin-C. The use bioactive substance in combination with complex phytin compound was more effective for accumulation of glycogen in the liver than using the drugs separately, hepatotoxin - carbon tetrachlormetan reduced carbohydrate metabolism and led to increase glycogen in liver tissues as well as the decreased lactic acid. It was determined that the combined treatment was more effective at toxic hepatitis induced by carbon tetrachlormetan, it had the hepatoprotective effect and improved liver function.

Key words: substance of darmonal, darmonal A, Liv-52, toxic hepatitis, glycogen, lactic acid.

ВЛИЯНИЕ ДАРМОНАЛА И КОМПЛЕКСНЫХ СОЕДИНЕНИЯ ФИТИНА НА УГЛЕВОДНЫЙ ОБМЕН ПРИ ЭКСПЕРИМЕНТАЛЬНОМ ТОКСИЧЕСКОМ ГЕПАТИТЕ

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Резюме

Целью исследования является изучение влияния дармонала и соединений фитина на количество гликогена и молочной кислоты в тканях печени.

Материалы и методы. Изучались новые соединения фитина: фитин-С, фитат кобальта и патентированная субстанция дармонал, полученное из клеток зерна пшеницы, выращенных в особых условиях. Для сравнения также был исследован биофлаваноид растительного происхождения Лив-52, используемый при лечении заболеваний печени. Исследование проведено на 60 белых крысах массой 120-150 г. Токсический гепатит вызывали подкожным введением 50%-ного маслянного раствора тетрахлорметана в дозе 0,8мл/100 г в течение 4 дней.

Результаты показывают, что совместное введение экстракта значительно превосходит таковое при совместном введении препарата Лив-52 у животных, особенно когда такой эффект был заметен при совместном введении препарата с фитином-С. При применении биоактивного вешества в сочетании с комплексным соединением фитина более эффективно приводило к накоплению гликогена в печени, чем при применении препаратов отдельно, гепатотоксин - тетрахлорметан снижает углеводный обмен и приводит к увеличению гликогена в тканях печени и снижению молочной кислоты. Установлено, что комбинированное лечение более эффективно при токсическом гепатите, индуцированном тетрахлорметаном, оказывали гепатозащитное действие улучшают функции печени.

Ключевые слова: субстанция дармонал, дармонал А, лив-52, токсический гепатит, гликоген, молочная кислота.

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BIRIKMALARINING UGLEDOD ALMASHISHIGA TA'SIRI.

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Rezyume

Tadqiqotning maqsadi darmonal va fitin birikmalarining jigar to'qimalarida glikogen va sut kislotasi miqdoriga ta'sirini o'rganishdir.

Materiallar va usullar. Yangi fitin birikmalari o'rganildi: fitin-C, kobalt fitat va maxsus sharoitlarda yetishtirilgan bug'doy don hujayralaridan olingan patentlangan darmonal moddasi. Taqqoslash uchun, jigar kasalliklarini davolashda qo'llaniladigan o'simlik kelib chiqishi Liv-52 bioflavonoidi ham o'rganildi. Tadqiqot 120-150 g og'irlikdagi 60 ta oq kalamushlarda o'tkazildi.Toksik gepatit 4 kun davomida 0,8 ml/100 g dozada uglerod tetrakloridning 50% yog'li eritmasini teri ostiga yuborish orqali qo'zg'atildi. Natijalar shuni ko'rsatadiki, ekstraktni birgalikda qo'llash Liv-52 ni hayvonlarga bir vaqtda qo'llashdan sezilarli darajada ustundir, ayniqsa preparat fitin-C bilan birgalikda qo'llanganda bunday ta'sir ko'rsatilganda. Biofaol moddani fitinning murakkab birikmasi bilan birgalikda qo'llashda u dori-darmonlarni alohida qo'llashdan ko'ra jigarda glikogenning to'planishiga olib keldi, gepatotoksin - uglerod tetraklorid uglevod almashinuvini pasaytiradi va jigar to'qimalarida glikogenning ko'payishiga olib keladi. va sut kislotasining kamayishi.

Uglerod tetraxlorid qo'zg'atadigan toksik gepatitda kombinatsiyalangan davolash samaraliroq ekanligi, gepatoprotektiv ta'sir ko'rsatishi va jigar faoliyatini yaxshilashi aniqlandi.

Kalit so'zlar: darmonal, darmonal A, liv-52, toksik gepatit, glikogen, sut kislotasi.

Relevance

The study of biologically active substance, their introduction in medical practice have great significance for increase population's work ability and prophylaxis of various pathological states. In this relation the great interest have biologically active substances taken from wheat. For example, sumalyak which was used by Uzbek people from ancient time in spring, but it has some lack, it is not possible to use for long time. The new biologically active substance on the base of wheat was taken as small powder – darmonal, and, on the base of oats it was darmonal-A (Mahmudjonova K.S., Karimova S.A.,2002) in Pharmaceutic institute. The pharmacological properties of darmonal were caused with content of wide spectrum various bioactive compounds: enzymes, complex B vitamins, proteins, fats, carbohydrates. Patent № (GOST 7169-66).

The liver participation in carbohydrate metabolism has particular significance. One of its activity is keeping glucose in hepatocytes by its transformation in glycogen and discharge in blood, when the reserve is exhausted. It is known that enzymes activity depends on microsomal oxydation of glucose-6-phosphate on pentozophosphate way and amount of glycogen. The glycogen is mainly kept in the liver, muscles, and, it is glucose reserve. But, when glycogen supplys myocytes with glucose-6-phasphate, in liver the glycogen gives glucose itself and other peripheric tissues.

Therefore, the glycogen amount decreasing in liver reduce coming NADF.N in chain of microsomal oxydation. It leads to retardation of dis-intoxication processes. The decrease activity of fermentative system at liver disease, in its turn, leads to reduce glycogen production and increase lactic acid, disorder of carbohydrate metabolism [3]. At toxic hepatitis the tissue hypoxia develops on the account of microcirculatory changes. It takes to decrease aerobic glycolis and predomination of anaerobic glycolis [2,4]. The high assimilate of glucose and accelerated glycogenolis are typical for it. Moreover the amount of lactic acid increases in cells and milk-sour hyperacidity is developed. Therefore, one of the most actual problem is the search of drug and bioactive substances with hepatoprotective properties made from natural substances, study effects of their combined application and use in practice.

Aim of our study is research influence of darmonal substance on phytin compounds on the amount of glycogen and lactic acid in liver tissues.

Materials and methods

There were researched the new phytin compounds: phitin-C, cobalt phytate and darmonal, Patent № (GOST 7169-66) which was taken from wheat grains being grown in special conditions. For comparison the bioflavonide of

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vegetable origin Liv-52, applicating at hepatic diseases, were used [1].

He study was carried out on 60 white rats with weight from 120 to 150гг. The toxic hepatitis was caused by subcutaneous introduction of 50% oiled tetrachlormetan solution in dose 0,8 ml/100 g for 4 days [5]. All experimental animals with toxic hepatitis were divided into 10 groups: 1 was intact; II was control (group with toxic hepatitis caused by tetrachlormetan); III group had darmonal extract in dose 10 mg/kg; IV group of animals got darmonal extract in dose 100 mg/kg; V group had 100 mlg/kg of darmonal-A; VI group got phytin-C in dose 100 mg/kg; VII had darmonal extrat and cobalt phytate in dose 200 mg/kg; VIII group of animals got darmonal extract and phytin-C in dose 100 mg/kg; IX group had darmonal extract 100 mg/kg and phytin 100 mg/kg; X group got Liv-52 in dose 100 mg/kg.

These drugs were introduced experimental animals per orally every day. As intact group were taken 6 healthy rats. On the 10th day of study laboratory animals were decapitated under anesthesia then the glycogen was determined in liver tissue by(Zeifter S. et al., 1950), and lactic acid by Byuhner G.Dj. (1965). The taken results were undergone to statistic processing [6].

Results and discussion

At animals of 1 group the amount of glycogen in liver tissues was decreased to 43,7%, but lactic acid increased in in 2,3 times (in comparison with the same intact animals). The taken results showed that acute poisoning with tetrachlormetan led to accumulation of lactic acid in the liver. At simultaneously introduction of researching substances for prophylaxis of hepatitis development and tetrachlormetan the prevention of sharp decrease glycogen amount and increase lactic acid in liver tissues were observed. There was particular increase of glycogen and reduce lactic acid in tissues of animals from III and IV groups.

Moreover, the darmonal action in dose 10 mg/kg was weak and the results of experiments were statistically incorrect, later, and, further the substance was introduced in the dose 100 mg/kg and the drug increased the level of liver glycogen on 29,6%, lactic acid on 41,4%. In V and VI groups the glycogen content in liver tissue increased on 44,7 and 45,5%, lactic acid was decreased to 60%. At animals of IX group the hepato-protector Liv-52 made the same activity increasing glycogen content on 46,6% and lactic acid on 56%.

Introduction of darmonal with phytin compounds enhanced their general hepatotropic action. Simultaneously intake phytin, cobalt phytate and phytin-C with preventive purpose led to increase the amount of glycogen in liver tissue and

decrease the level of lactic acid. Particularly the joint intake of cobalt phytate and phytin-C led to increase glycogen led on 56,6 and 57%, that witnessed on improvement of carbohydrate metabolism and reduce lactic metabolism on 65,4 and 64,4% accordingly.

Influence of drug and phytin compounds on level of glycogen and lactic acid in liver tissues at experimental toxic hepatitis, M±m

Group	Glycogen, гг/l	Lactic acid, mmol/l
Intact	49,2±0,92	1,5±0,2
Control group CCl_4 0,8ml/100 g	27,7±1,1	5,0±0,76
Darmonal 10 mg/kg	31,26±0,83*	3,85±0,43
Darmonal 100 mg/kg	35,9 ±1,2	2,93±0,47
Darmonal-A 100 mg/kg	40,1±1,15	2,0±0,14
Phytin-C 100 mg/kg	40,36±0,56	2,01±0,13
Darmonal 100 mg/kg+Cobalt phytate 200 мг/кг	37,6±1,2	2,34±0,15
Darmonal 100 mg/kg+Фитин-С 100 mg/kg	43,4±1,0	1,73±0,17
Darmonal 100 mg/kg+Phytin 100 mg/kg	43,5±0,92	1,78±0,09
Liv.52 100 mg/kg	40,65±0,77	2,2±0,09

Note. *Indices of control group* *R=0,05*

Joint introduction darmonal with phytin compounds led to synergistic effect.

The results show that joint introduction extract considerably surpass the outcomes at adding the medicine Liv-52 in animals, especially such effect was noticed at joint introduction with phytin-C.

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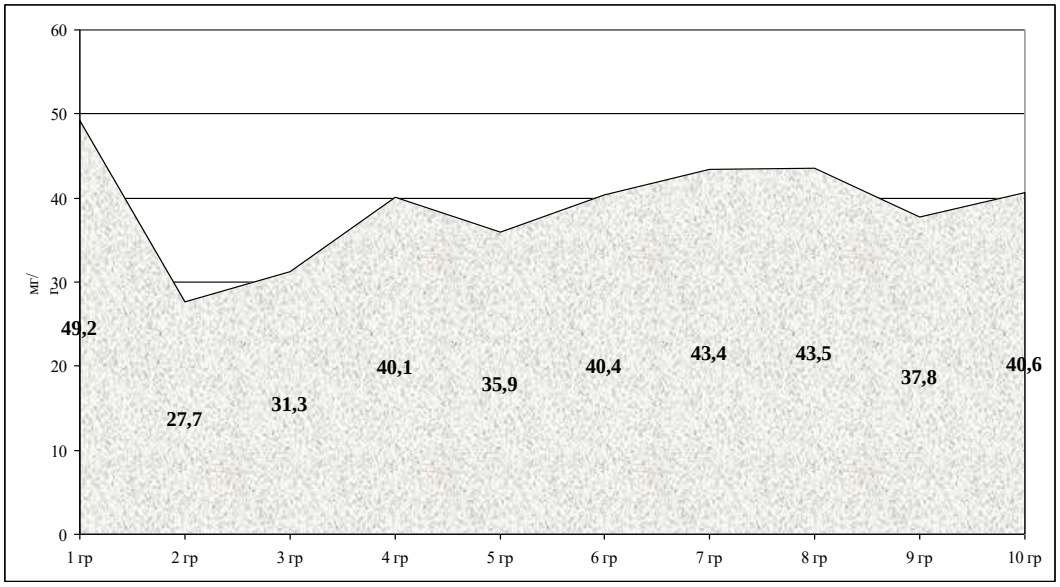
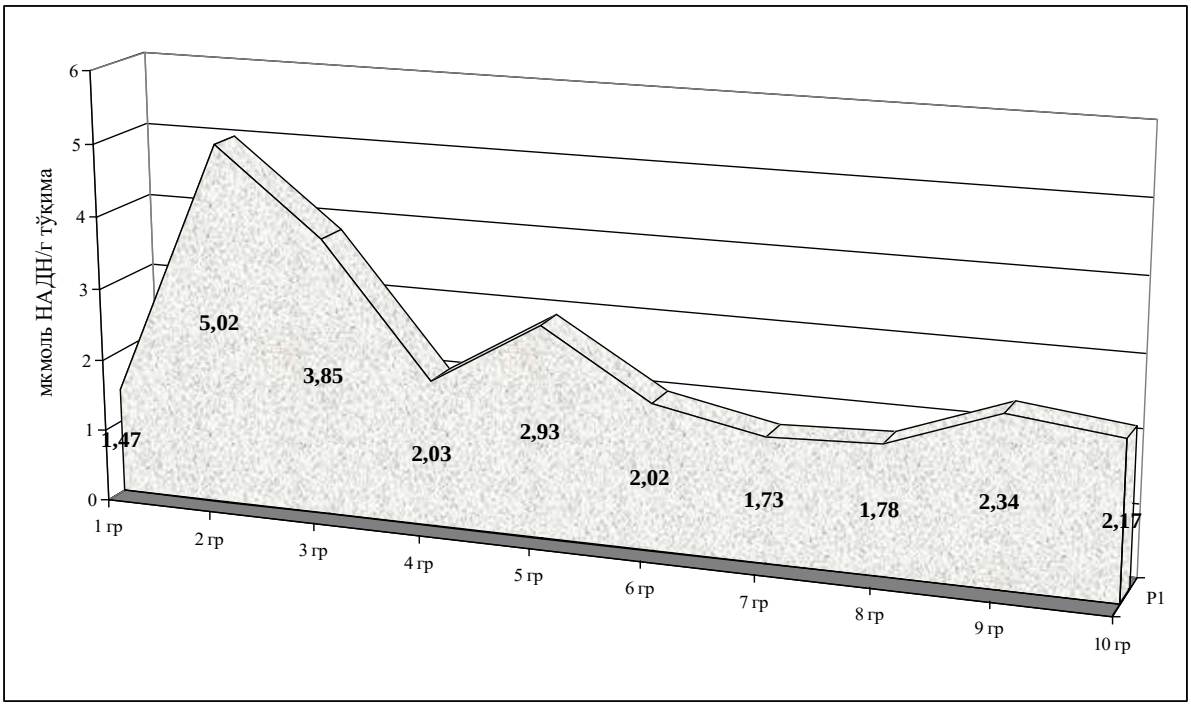


Picture 1. Influence of new drugs on the glycogen amount in liver at experimental hepatitis

In our opinion the efficacy of general hepatotropical action may be depended on plenty of organic and inorganic biologically active sustances in content of drug substances, anti-hypoxant, antioxidant и hepatoprotector activity of phytin compounds. At toxic hepatitis the tissue hypoxia was developed on the account of microciculatory changes. It led to decrease of aerobic glycolysis and predominance of anaerobic glycolysis. For this it is typical the high mastering of glucose accelerated glycogenolysis. Besides, the amount of lactic acid increases in cells and the milk sour acidosis occur. On this base the amount of lactic acid was determined in liver tissue (pic.2)



Picture 2. Influence of new drugs on amount of lactic acid in liver at experimental hepatitis

At use drug darmonal in combination with complex phytin compound led more effectively to glycogen accumulation than at applicationп them separately, hepatotoxin - tetrachlormetan reduced carbohydrates metabolism and led to glycogen increase in liver tissue and diminish lactic acid.

It means that use darmonal extract at animals with hepatitis leads to restore the function of glycogen accumulation in the liver. By this feature doesn't yield Liv-52 and phytin-C.

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Therefore, it is purposefully to take darmonal in combination with phytin-C and cobalt phytate, because such complex leads to restore the function glycogen accumulation in animals liver.

Conclusions

1. At toxic hepatitis, being caused with tetrachlormetan, the darmonal substance and complex phytin compound protect liver from damage and disorder glycogen biosynthesis in liver tissue and increase lactic acid.
2. The combined application of darmonal and complex phytin combound leads to increase the hepatoprotective action.

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SKIN MANIFESTATIONS OF VIRAL DERMATOSES IN CHILDREN UNDER 18 YEARS OF AGE WITH HIV INFECTION

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Resume

The article describes the most common viral dermatoses in children and their course in the presence of HIV infection based on the results of research reviews and analyzes of own data. The relationship between the course of these diseases, the prevalence and severity of manifestations with the state of the immune system of HIV-infected children is shown, determining the importance of timely diagnosis of these diseases for predicting the course of HIV infection.

Key words: HIV, children, virus, warts, herpes, molluscum contagiosum.

КОЖНЫЕ ПРОЯВЛЕНИЯ ВИРУСНЫХ ДЕРМАТОЗОВ У ДЕТЕЙ ДО 18 ЛЕТ БОЛЬНЫХ ВИЧ ИНФЕКЦИЕЙ

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Резюме

В статье описаны наиболее распространенные вирусные дерматозы у детей и их особенности течения на фоне ВИЧ-инфекции по результатам обзоров исследований и анализов собственных данных. Показана связь течения данных заболеваний, распространенность и тяжесть проявлений с состоянием иммунной системы ВИЧ-инфицированных детей, определяя важность своевременной диагностики данных заболеваний для прогноза течения ВИЧ-инфекции.

Ключевые слова: ВИЧ, дети, вирус, бородавки, герпес, контагиозный моллюск.

OIV INFEKTSION BO'LGAN 18 YOSHGA BO'LGAN BOLALARDA VIRUSLI DERMATOZLARNING TERI KO'RSATISHLARI

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Rezyume

Maqolada bolalarda eng ko'p uchraydigan virusli dermatozlar va ularning OIV infektsiyasi mavjudligida o'zimizning ma'lumotlarimizni tahlil qilish va tahlil qilish natijalariga asoslanib borishi tasvirlangan. Ushbu kasalliklarning kechishi, namoyon bo'lishining tarqalishi va og'irligi OIV bilan kasallangan bolalarning immunitet tizimining holati o'rtasidagi bog'liqlik, OIV infektsiyasining rivojlanishini bashorat qilish uchun ushbu kasalliklarni o'z vaqtida tashxislash muhimligini aniqlaydi.

Kalit so'zlar: OIV, bolalar, virus, siğil, gerpes, molluscum contagiosum.

Introduction

HIV, is a disease caused by the human immunodeficiency virus, is a chronic infectious disease of a human, that is characterized by a specific damage to the immune system, leading to its slow destruction with the formation of acquired immunodeficiency syndrome (AIDS), which is accompanied by opportunistic infections and secondary malignant neoplasms.

AIDS is caused by the human immunodeficiency virus (HIV), which belongs to the retrovirus family. There are two types: HIV-1 (widespread throughout the world) and HIV-2 (isolated mainly from patients in West Africa).

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AIDS is one of the most dangerous human infectious diseases that threatens the existence of the human population, since the death of those infected is inevitable on average 10-11 years after HIV infection.

The "prosperity" of HIV infection is facilitated by many years of asymptomatic transmission of HIV and the extremely rare possibility of spontaneous sanitation of the biological host. Therefore, a person infected with HIV remains a source of infection for many years, and only then inevitably falls ill and dies of AIDS.

For more than 30 years since the emergence of the epidemic, humanity has been fighting HIV / AIDS, but this problem has not yet been properly resolved. As you know, HIV/AIDS is not a problem of one state, but a global problem of the whole world, as well as one of the main tasks facing the world community. According to WHO statistics, more than 35 million people living with HIV are now officially registered in the world.

The HIV epidemic in Uzbekistan began around 1987. Until 2000, the epidemic could be considered initial. A sharp increase in the epidemic has been recorded since 2000.

Children are the most vulnerable part of the population. HIV infection in children and adolescents is becoming increasingly important as the number of people infected with HIV increases worldwide, and this trend is likely to continue in the future. The vast majority of HIV-infected children are infected perinatally. Infection of a child can occur in utero, during childbirth or during breastfeeding. The risk of mother-to-child transmission of HIV during childbirth is higher than during pregnancy. Postnatal transmission with breast milk is extremely rare. The incidence among children from infected mothers reaches 25-30%.

The diagnosis of HIV infection is not made to children under the age of one and a half years, because. that is how long it takes for the mother's antibodies to leave the baby's body.

The clinic of the disease in HIV-infected children develops faster, is more malignant and more difficult to treat.

To date, according to the national information agency of Uzbekistan, 45,000 people diagnosed with AIDS live in the republic. It is noted that 55% of them are men, 45% - women. There are also minors among the patients. In general statistics, they account for 14%. HIV in early childhood contributes to delayed physical and psychomotor development.

Target. To study the features of the course of viral skin diseases in children under 18 years of age with HIV/AIDS.

Materials and Methods. A review of the literature and analysis of diseases caused by viral infections affecting the skin in HIV-infected children was carried out.

Result and discussion

One of the most serious health problems in people with HIV is the so-called opportunistic infections caused by various bacteria, viruses, fungi against the background of reduced immunity. In healthy people or HIV-infected people with good immunity, these diseases usually do not occur or are mild.

Of the viral dermatoses in HIV-positive children, the most common are molluscum contagiosum, warts, and shingles.

Molluscum contagiosum. Molluscum contagiosum virus belongs to the poxyvirus family. Molluscum contagiosum is a viral skin disease, less common on mucous membranes, manifested by skin lesions with dome-shaped papules with an impression in the center. The elements of the rash are papules with a diameter of 1-2 mm, nodes (5-10 mm), occasionally giant nodes. The causative agent of this virus is the double-stranded DNA virus of molluscum contagiosum, which replicates in the cytoplasm of epithelial cells. Rashes of molluscum contagiosum are represented by small, cavityless elements that are not subject to erosion or ulceration without additional (usually external) influences. Over time, they undergo spontaneous regression, leaving no persistent secondary changes. Relapses are possible. The diagnosis of molluscum contagiosum is based on clinical findings.

In children with HIV infection, lesions are predominantly located on the face, trunk, and extremities. With the aggravation of immune disorders, the number of lesions increases. With immunodeficiency, not only exophytic growth of molluscum contagiosum elements is possible, but also endophytic. Molluscum contagiosum is detected in up to 10% of cases in HIV-infected people and up to 30% in AIDS patients.

There are 2 types of molluscum contagiosum virus. Most often, in healthy people, the causative agent of the virus is type 1 molluscum contagiosum virus, and in HIV-infected people, as a rule, the causative agent is type 2 virus.

The incubation period for molluscum contagiosum has not been clearly established. Previously it was believed that it lasts from 7 days to 6 months. However, according to recent studies, it ranges from 14 to 50 days.

The clinical course of molluscum contagiosum in HIV-infected and especially in AIDS patients is severe and protracted. Spontaneous remissions are rare. Standard treatment is ineffective or ineffective

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at all. A biopsy is indicated to exclude deep mycoses in HIV infection.

Molluscum contagiosum in HIV-infected and AIDS patients is usually considered as a clinical marker of the progression of the underlying disease and as a harbinger of poor prognosis.

However, there are reports that molluscum contagiosum associated with HIV infection is not an opportunistic dermatosis, but the result of a recent infection, and therefore can occur at any stage of HIV infection as a complication, including in the progression stage.

Warts. The causative agent of the disease is human papillomaviruses (HPV) - a group of DNA-containing viruses of the Papovaviridae family. Once in the body, it can be in a latent state for a long time - a person usually does not even suspect its existence. When factors favorable for the virus arise, it begins to "multiply" in the epithelium, leading to tissue changes. The most common manifestation of HPV infection is simple warts, which are localized benign epidermal hyperplasia, manifested by papules and plaques.

With HIV infection, warts are multiple, grow rapidly, and are difficult to treat. The prevalence and severity of manifestations depends on the degree of immunodeficiency.

Element s rashes of warts are dense papules with a diameter of 1-10 mm or more, often rounded. Color does not differ from normal skin color. The surface is covered with horny layers, under which black-brown dots are visible.

HIV-infected people are characterized by a generalized nature of rashes on the skin of the hands and feet, especially on the face, mouth, genitals and perianal region.

As immunodeficiency progresses, warts can be very large, multiple, grow rapidly, and affect large areas of skin. They are difficult to treat.

The incubation period of the disease ranges from several weeks to several years.

Shingles (herpes zoster). The risk of developing shingles in HIV-infected people is 15-25 times higher. The risk of developing herpes zoster is increased in HIV-infected patients with any number of CD_4 lymphocytes. As a rule , the appearance of the rash is preceded by prodromal pain in the area of the affected area , where typical blisters appear after a few days.

With herpes zoster in HIV-infected people, skin lesions with the formation of blisters are possible, i.e. against the background of immunodeficiency caused by HIV, vesicular eruptions are transformed into bullous ones. A distinctive feature of the clinical course of OH in patients with HIV infection is the young age of patients and the tendency to relapse (in half of the patients), as well as the dependence of the severity of clinical manifestations on the nature of the course of herpes zoster in patients with HIV infection on the degrees and damage to the immune system.

Herpes zoster is often the earliest and only sign of HIV infection. The reliability of the clinical assumption about the relationship of herpes zoster and HIV infection increases when these conditions are supplemented by the presence of persistent lymphadenopathy in the patient. Herpes zoster can occur at any time during the course of HIV infection, but more often it develops with an AIDS-associated complex and complex progressive lymphadenopathy. Relapses indicate the final stage of the disease - the stage of AIDS.

The clinical picture of herpes zoster is variable: from mild localized forms to very severe disseminated skin rashes. Rashes are more often localized along the cranial nerves in the region of the sacrum, accompanied by pain. In addition, the pain syndrome most often occurs 2 weeks before the appearance of rashes. The outcome of the rashes are scars, sometimes extensive with ulcerative necrotic forms of herpes zoster.

Conclusions

Thus, viral skin lesions in HIV-positive children and adolescents have their own clinical features. The course of these diseases, the prevalence and severity of manifestations depends on the state of the immune system of an HIV-infected person.

Modern diagnostics of these diseases is one of the important directions in HIV infection.

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DYSLIPIDEMIA IN COMBINATION WITH DYSBIOSIS OF THE GASTRODUODENAL ZONE IN PATIENTS WITH REACTIVE ARTHRITIS

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Resume

Dysbiotic changes in the gastroduodenal zone, as they progress, worsen the clinical course of the underlying disease, contributing to an increase in the atherogenic potential of blood serum. These circumstances predetermine the need to improve approaches to the correction of metabolic disorders in patients with reactive arthritis.

The purpose of the study. Was to study lipid metabolism in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone and to evaluate the clinical possibilities of probiotics in order to correct disorders of the microbiocenosis of the gastroduodenal zone and metabolic disorders.

Materials and methods: 200 patients with reactive arthritis with microbiocenosis of the gastroduodenal zone were taken for the study. The diagnosis of dysbacteriosis was made according to the degree of severity, based on clinical and microbiological data (assessment of the qualitative and quantitative composition of microflora) studies. Total cholesterol was determined by the Ilk method by reaction with acetic anhydride, and lipoprotein fractions were determined by polyacrylamide gel electrophoresis.

Results of the study: In the biochemical analysis of blood during therapy, there was a positive dynamics of lipidograms, comparable in terms of indicators in the first group and in the second, there was a tendency to reduce cholesterol, triglycerides, low-density lipoproteins, however, a significant increase in the level of high-density lipoproteins was registered only in the first group who received probiotic therapy.

Conclusion: The use of probiotics as part of the complex therapy of patients with reactive arthritis is accompanied by: a hypolipidemic effect comparable to that of simvastatin, while probiotics, to a greater extent than simvastatin, contribute to an increase in the level of the antiatherogenic fraction of high-density lipoprotein cholesterol, reducing the atherogenic coefficient.

Key words: reactive arthritis, dyslipidemia, dysbacteriosis, gastroduodenal zone, probiotic.

REAKTIV ARTRITLI BEMORLARDA GASTRODUODENAL ZONANING DISBAKTERIOZI BILAN BIRGALIKDA DISLIPIDEMIYA

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Rezyume

Gastroduodenal zonadagi disbiotik o'zgarishlar, ular o'sib borishi bilan, asosiy kasallikning klinik kechishini yomonlashtiradi va qon zardobining aterogen potentsialini oshirishga yordam beradi. Ushbu holatlar reaktiv artritli bemorlarda metabolik kasalliklarni tuzatishga yondashuvlarni takomillashtirish zarurligini oldindan belgilab beradi.

Tadqiqotning maqsadi gastroduodenal zonaning mikrobiotsenozi buzilgan reaktiv artritli bemorlarda lipid metabolizmini o'rganish va gastroduodenal zonaning mikrobiotsenozi buzilishlarida va metabolik kasalliklarni tuzatish uchun, probiyotiklarning klinik imkoniyatlarini baholash edi.

Materiallar va usullar: Tadqiqot uchun gastroduodenal zonaning mikrobiotsenozi bilan reaktiv artritli 200 nafar bemor qabul qilindi. Disbakterioz tashxisi klinik va mikrobiologik ma'lumotlar (mikrofloraning sifat va miqdoriy tarkibini baholash) tadqiqotlari asosida zo'ravonlik darajasiga

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ko'ra amalga oshiriladi. Umumiy xolesterin Ilk usuli bilan sirka angidrid bilan reaksiyaga kirishib, lipoprotein fraksiyalari esa poliakrilamid gel elektroforezi bilan aniqlandi.

Tadqiqot natijalari: Terapiya paytida qonning biokimyoviy tahlilida birinchi guruhdagi ko'rsatkichlar bo'yicha taqqoslanadigan lipidogrammalarning ijobiy dinamikasi va ikkinchisida xolesterin, triglitseridlar, past zichlikdagi lipoproteinlarni kamaytirish tendentsiyasi kuzatildi, ammo yuqori zichlikdagi lipoproteinlar darajasining sezilarli o'sishi faqat probiyotik terapiya olgan birinchi guruhda qayd etilgan.

Xulosa: Reaktiv artrit bilan og'rigan bemorlarni kompleks davolashning bir qismi sifatida probiyotiklarni qo'llash simvastatin bilan taqqoslanadigan hipolipidemik ta'sir bilan birga keladi, probiyotiklar esa simvastatinga qaraganda ko'proq darajada antiaterogenlar darajasini oshirishga yordam beradi. yuqori zichlikdagi lipoprotein xolesterinning fraktsiyasi, aterogen koeffitsientni kamaytiradi.

Kalit so'zlar: reaktiv artrit, dislipidemiya, disbakterioz, gastroduodenal zona, probiyotik.

ДИСЛИПИДЕМИЯ В СОЧЕТАНИИ С ДИСБАКТЕРИОЗОМ ГАСТРОДУОДЕНАЛЬНОЙ ЗОНЫ У БОЛЬНЫХ РЕАКТИВНЫМ АРТРИТОМ

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Резюме

Дисбиотические изменения в гастродуоденальной зоне, по мере своего прогрессирования, ухудшают клиническое течение основного заболевания, способствуя увеличению атерогенного потенциала сыворотки крови. Указанные обстоятельства предопределяют необходимость усовершенствования подходов к коррекции метаболических расстройств у больных реактивным артритом.

Цель исследования: изучение липидного обмена у больных реактивным артритом с нарушением микробиоценоза гастродуоденальной зоны и оценка клинических возможностей пробиотиков в целях коррекции нарушений микробиоценоза гастродуоденальной зоны и метаболических расстройств.

Материалы и методы: Для иследования было взято 200 пациентов с реактивным артритом с наружением микробиоценоза гастродуоденальной зоны. Диагноз дисбактериоз ставился по степени выраженности, основанный на данных клинического и микробиологического (оценка качественного и количественного состава микрофлоры) исследования. Общий холестерин определялся методом Илька по реакции с уксусным ангидридом, а фракции липопротеидов - методом электрофореза в полиакриламидном геле.

Результаты исследования: В биохимическом анализе крови на фоне терапии наблюдалась положительная динамика липидограмм, сопоставимая по показателям в первой группе и во второй, отмечалась тенденция к снижению холестерина, триглицеридов, липопротеидов низкой плотности, однако достоверное повышение уровня липопротеидов высокой плотности было зарегистрировано лишь в первой группе, которые получали пробиотическую терапию.

Заключение: Применение пробиотиков в составе комплексной терапии больных реактивным артритом сопровождается: гиполипидемическим действием, сопоставимым с действием симвастатина, при этом пробиотики в большей степени, чем симвастатин, способствуют повышению уровня антиатерогенной фракции холестерина липопротеидов высокой плотности, снижая коэффициент атерогенности.

Ключевые слова: реактивный артрит, дислипидемия, дисбактериоз, гастродуоденальная зона, пробиотик.

Relevance

It is now known that a huge number of provocative factors influence the change in the microflora of the gastroduodenal zone: diseases of the internal organs; iatrogenic effects - antibiotics, hormones, cytostatics, ra dioactive therapy, surgical interventions; acute infectious

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diseases of the gastrointestinal tract; decreased immunity; stresses of various origins, especially chronic stress; irregular and / or unbalanced diet, dietary fiber deficiency, consumption of food containing genetically modified foods. [1,5,8].

Dysbacteriosis is widespread both in the general population; and in patients with diseases of the internal organs. These include, in addition to diseases of the digestive system, which were listed above, connective tissue diseases (rheumtoid arthritis, reactive arthritis), cardiovascular diseases (coronary heart disease, myocardial dystrophy), metabolic diseases (obesity, dyslipoproteinemia, urolithiasis), oncopathological processes, allergic and autoimmune diseases (bronchial asthma, rheumatoid arthritis and other diffuse connective tissue diseases), gynecological diseases (endometriosis, dysmenorrhea) and many other clinical syndromes and pathological conditions. The results of many scientific studies indicate the involvement of the microbiota in the pathogenesis of these diseases at different stages [3,7,8].

In reactive arthritis, a violation of microbiocenosis occurs in 90% of cases. Dysbiotic changes in the intestine, as they progress, worsen the clinical course of the underlying disease, contributing to an increase in the atherogenic potential of blood serum.

These circumstances predetermine the need to improve approaches to the correction of metabolic disorders in patients with reactive arthritis.

One of them may be the use of probiotics, which contribute to the restoration of normal intestinal microflora. According to the theoretical justification, experimental data and already accumulated clinical experience, the use of microbiocenosis correction agents in the treatment of blood lipid disorders is promising [4,6] and requires more detailed study. It is necessary to assess the relationship between the state of lipid metabolism and intestinal dysbiosis in reactive arthritis. Evaluation of the possibilities of probiotic therapy in order to correct metabolic changes is highly demanded. All the above circumstances predetermine the relevance of this study.

The purpose of the study: was to study lipid metabolism in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone and to evaluate the clinical possibilities of probiotics in order to correct disorders of the microbiocenosis of the gastroduodenal zone and metabolic disorders.

Materials and methods

100 patients with reactive arthritis with microbiocenosis of the gastroduodenal zone were taken for the study. The criteria for the diagnosis of dysbacteriosis were the following points:

1. change in the ratio between aerobic and anaerobic microflora;
2. decrease in the content of bifidobacteria, lactobacilli and bacteroids;
3. change in the ratio of microorganisms of groups of obligate and facultative representatives of normal microflora;
4. an increase in the total number of Escherichia coli with altered biological properties (with reduced enzymatic activity, lactose-negative, immobile, etc.);
5. the appearance of hemolyzing Escherichia and staphylococci, which are absent in the norm;
6. expansion of microflora beyond the boundaries of the habitual habitat, expressed in the syndrome of excessive colonization of the small intestine [3, 4, 5].

Currently, there is no single classification in determining the degree of dysbacteriosis. Many authors adhere to the classification according to the degree of severity, based on the data of clinical and microbiological (assessment of the qualitative and quantitative composition of microflora) studies.

Total cholesterol was determined by the Ilk method by reaction with acetic anhydride, and lipoprotein fractions were determined by polyacrylamide gel electrophoresis. To determine the type of dyslipidemia, laboratory data such as total serum cholesterol, triglycerides, and high-density lipoprotein cholesterol were used. Phenotyping of dyslipidemia was carried out according to the classification proposed in 1967 by D. Fredrickson et al. and approved and expanded in 1970 by WHO [7].

Result and discussion

Among the examined 100 patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone, 44 people with dyslipidemia were selected.

For each subject, the main indicators of lipid metabolism and the type of their disorders were determined according to the classification of D. Frederickson et al. (1967), expanded by WHO experts.

Depending on the type of therapy received, two study groups and one comparison group were formed. Study group 1 included 18 patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone and lipid metabolism disorders, who underwent complex treatment,

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including the standard treatment regimen for reactive arthritis (antibiotic therapy, non-steroidal anti-inflammatory drugs, aminoquinoline drugs, glucocorticosteroids), as well as biologically active supplement (BAA) with a probiotic mechanism of action "Lacto G" at a dose of 1 g 3 times a day with meals for 3-4 weeks.

Study group 2 included 16 patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone and disorders of lipid metabolism, who underwent complex treatment, including the standard treatment regimen for reactive arthritis (antibiotic therapy, non-steroidal anti-inflammatory drugs, aminoquinoline drugs, glucocorticosteroids) who received along with the standard treatment regimen simvastatin at a dose of 10 mg 1 time per day (in the evening) for 3-4 weeks.

The third group (control) consisted of 8 patients with reactive arthritis with a violation of the microbiocenosis of the gastroduodenal zone and disorders of lipid metabolism, who underwent a standard treatment regimen for reactive arthritis (antibiotic therapy, non-steroidal anti-inflammatory drugs, aminoquinoline drugs, glucocorticosteroids)

The full scope of the following diagnostic measures was carried out for all patients before treatment and 1-1.5 months after the start of therapy.

In 44 examined patients with dyslipidemia, the following types of lipid metabolism disorders were identified: in group 1- 45.3% had type IIa dyslipidemia, 20.2% had type IIb, and 34,5 % had type IV dyslipidemia. In patients of group 2- 39% of cases revealed type IIa dyslipidemia, 30% - type IIb dyslipidemia, and 30% - type IV dyslipidemia.

In group 3, patients with type IIa dyslipidemia also predominated (43,3%), 28,2% had type IIb dyslipidemia, and 28,5% had type IV dyslipidemia.

The nature of the identified dyslipidemias in patients is presented in Table 1.

Table 1

Indicators of lipid metabolism in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone.

	1st group	2nd group	3rd group
II a type of dyslipidemia	45,3%	39%	43,3%
II b type of dyslipidemia	20,2%	30%	28,2%
IV type of dyslipidemia	34,5%	30%	28,5%

Thus, the nature of the revealed changes allows us to judge that Pb and Pa types of dyslipidemia according to the classification of D. Fredrickson et al. are predominant in patients of this category.

Before treatment, all patients had an increase in the level of total cholesterol in the blood serum: in group 1 - 7.20 ± 0.18 mmol / l, in group 2 - 7.35 ± 0.33 mmol / l and in group 3 - 7, 28±0.9 mmol/l (Figure 1).

Figure 1.

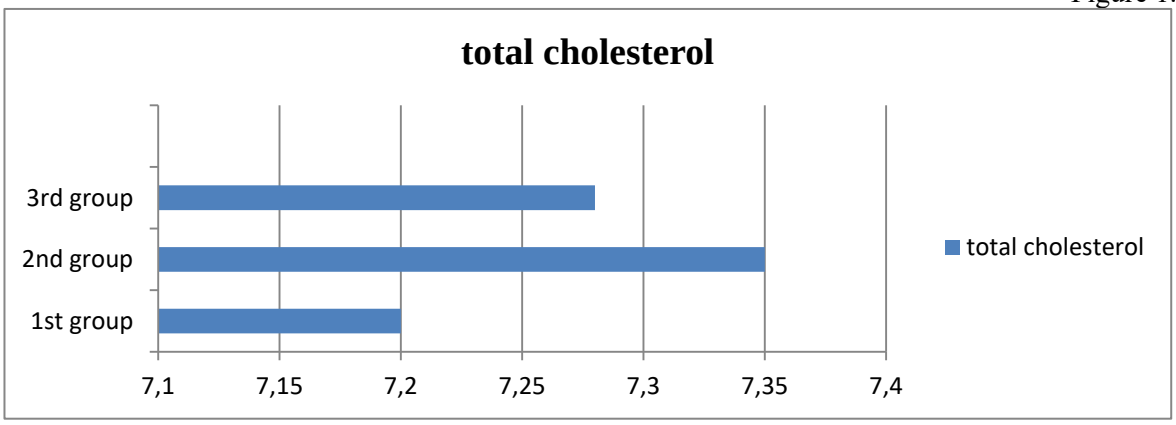

Figure. 1. The level of total cholesterol in blood serum in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone before treatment (normal - 3.6 - 5.2 mmol / l)

The amount of triglycerides in the blood serum did not exceed the normal level: in the first group - 1.89 ± 0.12 mmol / l, in the 2nd group - 1.98 ± 0.35 mmol / l and in the 3rd group - 1.87 ± 0.09 mmol/l.

Attention was drawn to the increase in the level of low-density lipoprotein cholesterol in the blood serum in all groups of subjects (group 1 - 4.03 ± 0.04 mmol / l, group 2 - 3.85 ± 0.05 mmol / l, group 3 - 3, 89±0.11) (Figure 3).

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Figure 2.

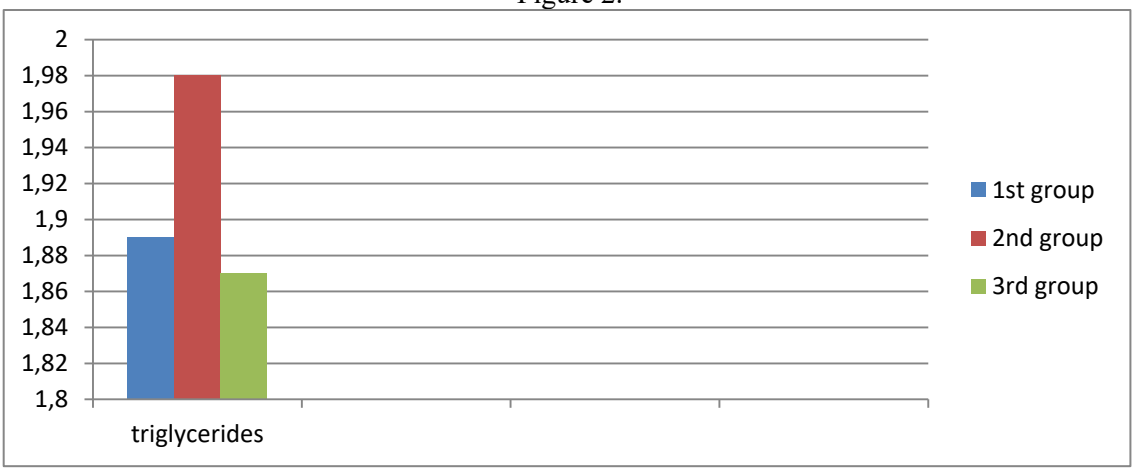

Figure. 2. The level of triglycerides in blood serum in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone before treatment (normal - 0.4-1.88 mmol / l)

Figure 3.

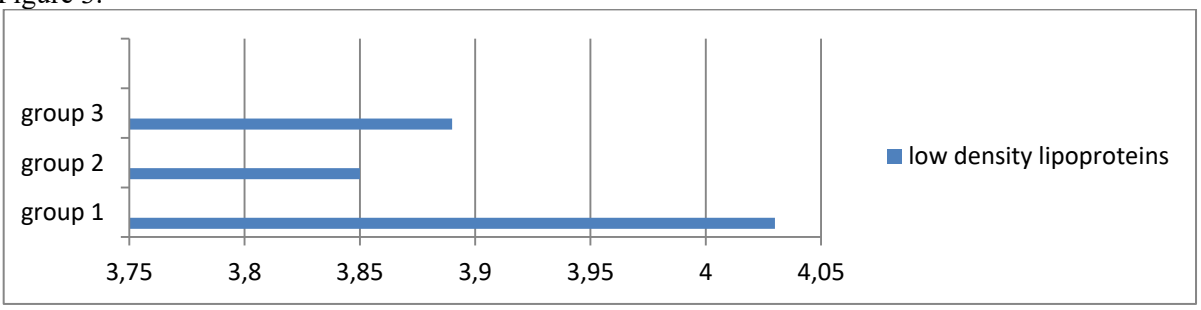

Figure. 3. The level of low-density lipoprotein cholesterol in blood serum in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone before treatment (normal < 3.4 mmol / l)

The content of very low density lipoprotein cholesterol in blood serum in patients of group 1 was 0.39±0.02 mmol/l, in patients of group 2 - 0.41±0.38 mmol/l, in patients of group 3 - 0.43 ±0.04 mmol/l.

The content of cholesterol in high-density lipoproteins in blood serum before treatment was: in the first group - 1.28±0.05 mmol/l, in the second group - 1.39±0.13 mmol/l, in the third group - 1.29 ±0.07 (Figure 5).

Figure 4

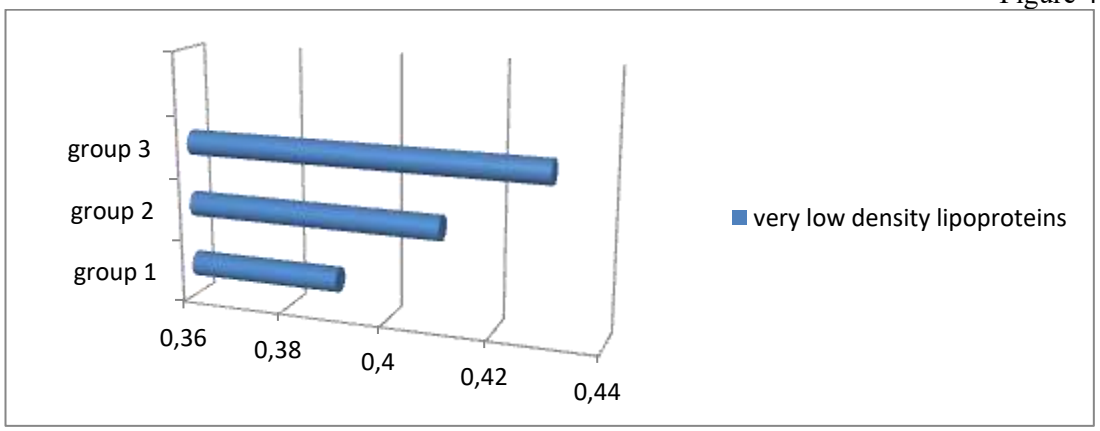

Figure 4. The level of very low density lipoprotein cholesterol in blood serum in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone before treatment (normal - not < 038 mmol / l)

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Figure 5.

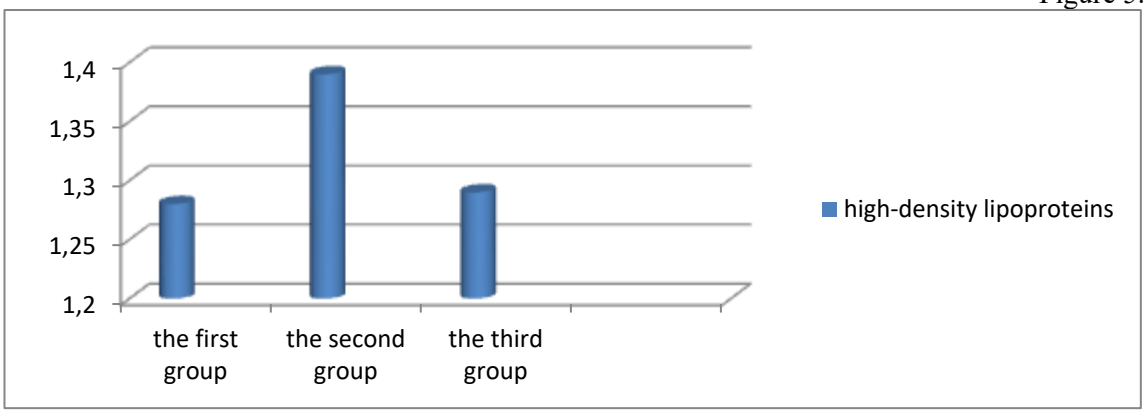

Figure 5. The level of high-density lipoprotein cholesterol in blood serum in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone before treatment (norm not less than 0.9 mmol/l)

Violation of lipid metabolism is naturally manifested by a change in the coefficient of atherogenicity, which manifested itself in all types of dyslipidemia. The coefficient of atherogenicity in group 1 was 4.625, in group 2 - 4.29, in group 3 - 4.64 (Figure 6).

It seems to us that dysptoteinemia reflects the systemic reaction of the body in the form of pathological processes that go beyond the scope of one organ and are characterized by dysmetabolic disorders.

(Figure 6).

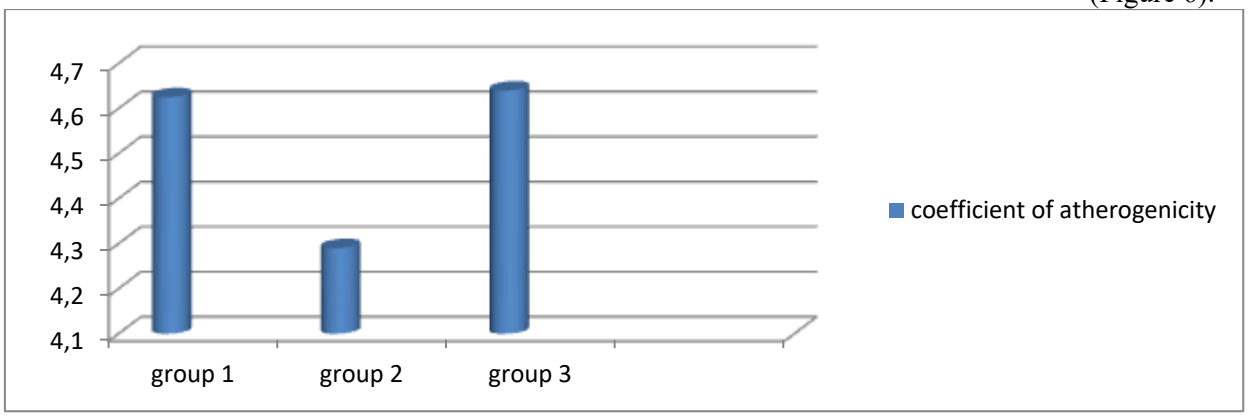

Figure 6. The coefficient of atherogenicity in patients with reactive arthritis with a violation of the microbiocenosis of the gastroduodenal zone before treatment (the norm is not more than 2.5)

Dynamics of blood lipid spectrum indicators against the background of various therapy regimens in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone.

The results obtained in the study groups of patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone are shown in table 2.

Table 2.

Indicators of blood lipid profile in the studied groups of patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone (after treatment).

	total cholesterol	Triglycerides	low density lipoproteins	very low density lipoproteins	high density lipoproteins
group 1	5,43	1,56	3,3	0,33	2,08
group 2	5,4	1,63	3,2	0,35	1,41
group 3	7,27	1,88	3,9	0,41	1,27

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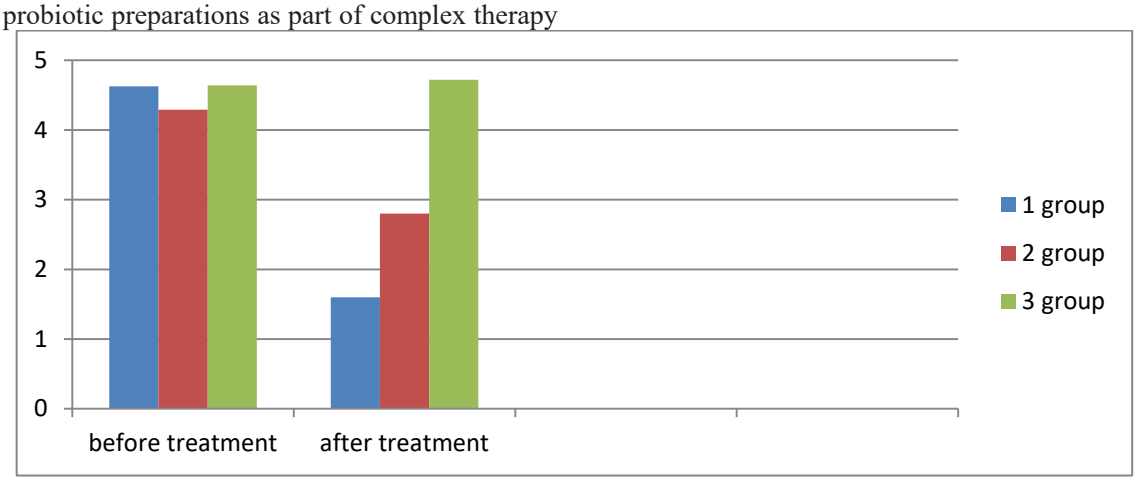
In the biochemical analysis of blood during therapy, a positive dynamics of lipidograms was observed, comparable in terms of indicators in the first group and in the second, there was a tendency to reduce cholesterol, triglycerides, low-density lipoproteins, however, a significant increase in the level of high-density lipoproteins was registered only in the first group, who received probiotic therapy.

From the above data, it can be seen that the use of probiotic preparations as part of complex therapy in patients with reactive arthritis has a pronounced hypolipidemic effect, comparable to that of simvastatin, increases the level of anti-atherogenic high-density lipoproteins.

The dynamics of changes in the coefficient of atherogenicity is shown in Figure 7.

Figure 7. Coefficient of atherogenicity in patients with reactive arthritis with impaired microbiocenosis of the gastroduodenal zone before and after treatment.



Based on this, it can be concluded that the addition of drugs that improve the state of intestinal microbiocenosis to the standard treatment regimen for reactive arthritis in violation of the lipid spectrum contributes to the normalization of the lipid profile in this category of patients.

The use of probiotics as part of the complex therapy of patients with reactive arthritis is accompanied by: a hypolipidemic effect comparable to that of simvastatin, while probiotics, to a greater extent than simvastatin, contribute to an increase in the level of the anti-atherogenic fraction of high-density lipoprotein cholesterol, reducing the atherogenic coefficient from 4.625 to 1.6 has a positive impact on the possible development of complications of cardiovascular diseases and improving the quality of life of patients.

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CLINICAL AND DIAGNOSTIC STRUCTURE OF PATIENTS WITH CHRONIC PURULENT OTITIS MEDIA

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Resume

We have studied the results of bacteriological culture of the microbiota of various parts of the middle ear in an adult contingent of patients with chronic suppurative otitis media. The results of the study indicate that in 87% of patients the identified bacteria were highly antibiotic resistant. Conservative therapy of this contingent of patients was carried out with a combination of antibiotics from 2 groups both parenterally and locally, parenterally with an antibiotic from the group of carbapenems and fluoroquinolones as a local therapy.

Keywords: chronic suppurative otitis media, antibiotic sensitivity, fluoroquinolones, carbapenems

КЛИНИКО-ДИАГНОСТИЧЕСКАЯ СТРУКТУРА БОЛЬНЫХ ХРОНИЧЕСКИМ ГНОЙНЫМ СРЕДНИМ ОТИТОМ

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Резюме

Нами изучены результаты бактериологического посева микробиоты различных отделов среднего уха у взрослого контингента больных хроническим гнойным средним отитом. Результаты исследования свидетельствуют о том, что у 87% больных выявленные бактерии обладали высокой антибиотикорезистентностью. Консервативная терапия данного контингента больных проводилась комбинацией антибиотиков из 2-х групп как парентерально, так и местно, парентерально с антибиотиком из группы карбапенемов и фторхинолонов в качестве местной терапии.

Ключевые слова: хронический гнойный средний отит, чувствительность к антибиотикам, фторхинолоны, карбапенемы.

SURUNKALI YIRINGLI OTIT BILAN KASALLANGAN BEMORLARNING KLINIK-DIAGNOSTIK TUZILISHI

Esamuratov A.I.

Toshkent tibbiyot akademiyasi Urganch filiali

Rezyume

Surunkali yiringli otitis media bilan og'rigan bemorlarning kattalar kontingentida o'rta quloqning turli qismlari mikrobiotalarini bakteriologik ekish natijalarini o'rgandik. Tadqiqot natijalari shuni ko'rsatadiki, bemorlarning 87 foizida aniqlangan bakteriyalar antibiotiklarga yuqori qarshilikka ega. Bemorlarning ushbu kontingentining konservativ terapiyasi 2 guruh antibiotiklari bilan parenteral va mahalliy, parenteral ravishda karbapenemlar guruhining antibiotiklari va mahalliy terapiya sifatida ftorxinolonlar bilan birgalikda amalga oshirildi.

Kalit so'zlar: surunkali yiringli o'rta otit, antibiotiklarga sezuvchanlik, ftorxinolonlar, karbapenemlar.

Relevance

Chronic inflammation of the middle ear, despite significant progress in prevention, diagnosis and treatment, remains one of the most common and dangerous childhood diseases. This

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is due to many medical and social reasons, as well as such adverse effects as hearing loss and the risk of intracranial complications caused by exacerbations of a chronic process in the middle ear. The modern definition of chronic purulent otitis media (CPOM), summarizing the main features of this disease, was given by V.T. Palchun et al. [1]. CPOM is a chronic purulent inflammation of the middle ear, which occurs with persistent perforation of the tympanic membrane, persistent or recurrent suppuration from the ear, and hearing loss of varying degrees, gradually progressing with a long course of the disease [1, 2]. In addition, to date, CPOM is also dangerous as a source of formidable intracranial complications (mastoiditis, meningitis, brain abscess, sinus thrombosis). Changes in the etiological structure and sensitivity of CPOM pathogens in the last decade have had an impact on the nature of inflammation in the middle ear, its severity, and the duration of the course of the disease [5].

Objectives: to study the microbial landscape of various parts of the middle ear in patients with CPOM, to determine the sensitivity of the isolated bacterial flora to antibiotics of various groups, to conduct a comparative analysis of pathological changes detected during surgical intervention with the existing microflora in the middle ear cavities.

Materials and methods

We examined 217 patients with chronic suppurative otitis media who were hospitalized in the ENT department of the TMA clinic, Urgench branch. In all patients, upon admission, a microbiological study of purulent discharge from the middle ear was performed, and the contents of the antrum and tympanic cavity were taken during sanitizing surgery on the ear. Microbiological methods included the study of the species composition of microflora from the ear on solid nutrient media; after species identification of the isolated microflora, its sensitivity to antibiotics of various groups was studied by diffusion into agar with standard indicator disks. To grow cultures of streptococci and Haemophilus influenzae, microaerophilic conditions were created using 10% CO2. They also took smears for flora from the mucous membrane of the nasal cavity and nasopharynx to determine how its character changes after treatment. Treatment was carried out in accordance with the standards of specialized medical care: antibiotic therapy, catheterization of the auditory tubes (in case of preperforated otitis media), transtympanic injection of antibacterial drugs (in case of perforation of the tympanic membrane or after paracentesis), vascular therapy (in case of concomitant sensorineural hearing loss). In 20% of cases, shunting of the tympanic cavity was performed on one or both sides.

Result and discussion

With goal study etiological values microbial factor a at CPOM in all patients was studied microflora cavities of the middle ear and determined its stability to antibiotics. quantitative and qualitative from becoming a microbial landscape were evaluated according to the growth rate of the colonies, polymorphism and the nature of the flora (Table 1). In formed clinical groups we took into account abundant and moderate growth, the predominance of one or two pathogens, mixed microflora with explicit advantage one microbe.

In patients with mesotympanitis, abundant growth of microflora on nutrients environments observed in 63.1% of samples, moderate — in 28.9%, no growth - in 7.8%. With abundant seeding, the overwhelming growth of one microbe was present in 28.9%, with moderate - in 4.6%, two or more microbes - in 9.2% and 17.1% , respectively, symbiosis with predominance one kind — in 25.0% And 7.2%.

Species identification showed among pathogenic microorganisms in crops dominated S. aureus and Pseudomonas aeruginosa , which you sowed at 27.6% And 10.5% the patient, respectively. except Togo were sown S. epidermidis (12.5%), E. coli (9.2%), Corynebacterium spp and Enterococcus faecalis (on 8.5%), Str . pneumonia And Str . haemoliticus (on 7.8%), Str . viridans (6.5%), Str . sangius (5.2%), S. saprophiticus , molds and fungi of the genus Candida (3.9 % each), Str . mitis (3.2%), Str . salivarius (1.9%). Figure 2 shows the seeding frequency depending on the comparison group

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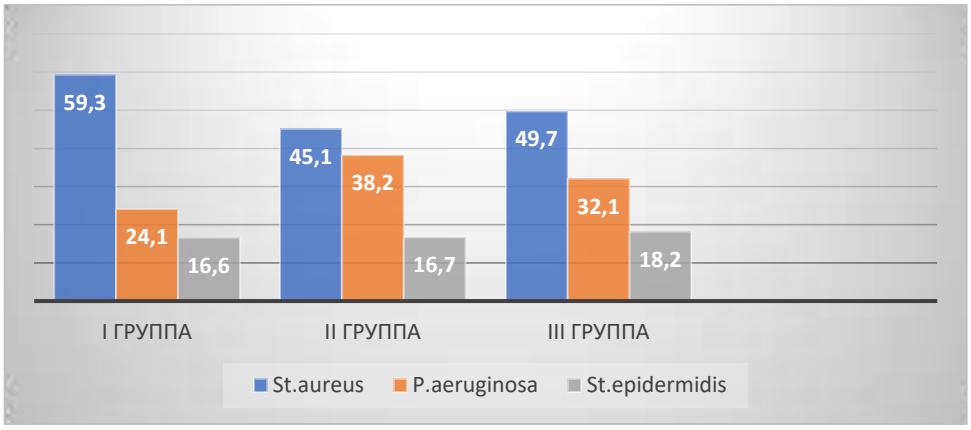
The nature of the microbial landscape of the middle ear depending on the severity of the inflammatory process

Microbiological characterization		I (n=97)	II group (n=79)	Group III (n=41)	t Student's criterion		
					1k2	1k3	2k3
contamination (all observations)	Abundant Growth	61 (63.4%)	34 (43.1%)	35.6 (86.9%)	**2.02**	**2.07**	**3.61**
		27 (27.8%)	17 (21.2%)	13.2 (32.2%)	1.14	0.2	0.91
		24 (24.6%)	13 (16.9%)	13 (31.9%)	1.44	0.6	1, 4 1
		8 (8.8%)	6 (7.1%)	11 (26.1%)	0.34	1.79	**2.05**
	Moderate growth	28 (28.8%)	26 (32.9%)	3 (7.3%)	0.32	**2.89**	**2.92**
		4 (4.1%)	9 (11.3%)	0	1.19		
		7 (7.2%)	12 (15.1%)	1 (2.4%)	1.62	1.76	**2.73**
		17 (17.5%)	14 (17.7%)	2 (4.8%)	1.79	1.69	0.02
No growth of microflora		8 (8.2%)	20 (25.3%)	2 (4.8%)	**2.14**	0.21	**2.61**
Cultured microorganisms							
S. aureus		29.1%	18.2%	43.1%	1.04	1.39	**2.08**
Str.haemoliticus		8.1%	16.4%	2.7%	0.56	**2.18**	**2.34**
H.influensia		6.2%	5.8%	14.5%	0.01	0.71	0.7
S.epidermidis		13.2%	12.5%	4.2%	0.03	0.81	0.68
E.coli		10.3%	8.1%	10.7%	0.18	0.21	0.6
Ps. aeruginosa		11.1%	22%	37.1%	1.04	**2.11**	1.3
Str.mitis		3.1%	0.8%	2.7%	0.2	0.3	0.21
Mushrooms		4.2%	5.8%	16.3%	0.3	1.5	1.2

Note: statistically significant differences in bold $p < 0.05$



Rice.2 Frequency of inoculation of pathogens

According to the results of microbiological studies, gram-positive cocci (Staphylococcus aureus, Staph. spp., St. epidermidis), gram - negative non- fermenters (Pseudomonas aeruginosa) sticks; obligate anaerobic (Peptostreptococcus spp ., Fusobacterium spp .) bacteria, yeast-like (Candida spp .) and molds (Aspergillus spp .) fungi, etc., more often in association (2–3 microorganisms). St. epidermidis in crops from the external auditory canal was evaluated as a representative of the normal biocenosis of the skin of the external auditory canal. Mixed flora was sometimes represented by associations of Staphylococcus aureus with gram-negative flora (11%), in 4% of cases yeast and mold fungi were present in microbial associations. In crops from the antrum and tympanic cavity, microbial pathogens were present in the test material in the monovariant : Staphylococcus aureus (55%), non-fermenting bacillus (25%), Proteus vulgaris (10%), Klebsiella pneumoniae (5%). In patients with severe aditus block , the results of a study of the microbial flora of various parts of the middle ear in children with chronic suppurative otitis media are presented. These studies showed that in all patients with severe destructive changes in the middle ear, pathogens were highly resistant to antibacterial drugs. Treatment of such patients should be carried out using meropenem in combination with fluoroquinolones. locally . Thus, as a result of a bacteriological study, it was

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established that in the etiological structure of CGSO, the dominant microorganisms were gram-positive pyogenic cocci (Staphylococcus aureus and epidermal), non-fermenting rods (Pseudomonas aeruginosa), obligate anaerobic microorganisms were less common, among them peptostreptococci predominated . The representation of mixed microflora is shown in Figure 3

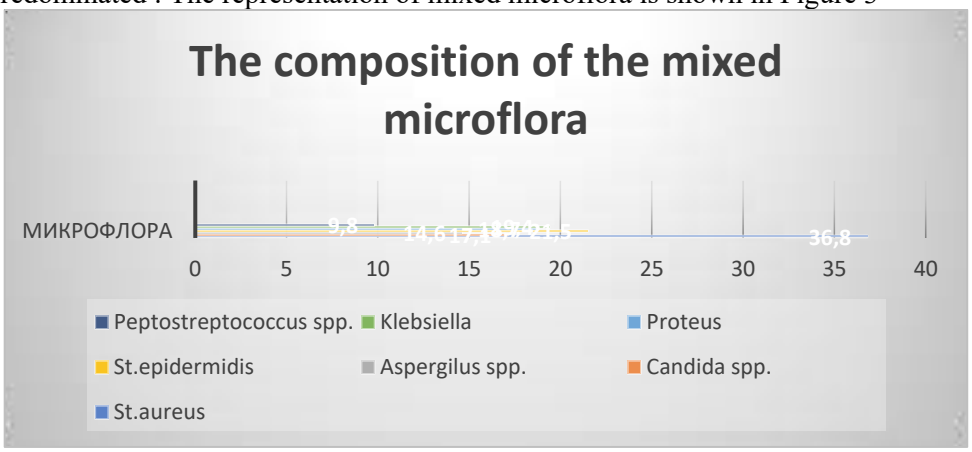

Fig.3 Composition of mixed microflora

In the study of the antibiotic sensitivity of the flora obtained during intraoperative sampling, resistance to most antibacterial agents was found. Of no small importance for the acquisition of resistance to a particular antibiotic by a bacterial population is its ability to form a biofilm - an organized community of microorganisms consolidated by a polymer matrix, the synthesis of which is induced by various circumstances, in particular, adhesion of bacterial cells to epithelial layers. According to the literature, P. aeruginosa is highly sensitive to fluoroquinolone drugs when administered parenterally. However, this does not provide a sufficient concentration of the drug in the focus of inflammation. In addition, Pseudomonas aeruginosa tends to infect patients with immune system defects. Along with microbiological examination, 40 patients with CPOM underwent audiological examination before and after surgery.

Conclusions

According to our data, multidrug-resistant strains of S. aureus and Ps. aeruginosa. The presence of fungal flora contributes to the maintenance of inflammatory processes in microbial associations and does not occur as a monoflora. The treatment of such patients, according to the study, should be carried out using antibiotics from the group of carbapenems in combination with fluoroquinolones. locally, as well as antimycotic drugs. Currently, the group of fluoroquinolones is a serious alternative to highly active antibiotics.

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VITAMIN D SUPPLY OF CHILDREN WITH RELAPSING RESPIRATORY DISEASES

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Rezume

The article deals with the study results of vitamin D influence on development and course of acute respiratory diseases, the interrelation of vitamin D content and respiratory diseases among children and teenagers are shown, as well as, there are given estimation of prophylactic measures with the aim to develop diseases and to reduce relapses.

Key words: relapsing respiratory diseases, Vitamin D, children

ОБЕСПЕЧЕННОСТЬ ВИТАМИНОМ Д ДЕТЕЙ С РЕЦИДИВИРУЮЩИМИ РЕСПИРАТОРНЫМИ ЗАБОЛЕВАНИЯМИ

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Резюме

В данной статье представлены результаты влияния витамина Д на развитие и течение острых респираторных заболеваний, приводится взаимосвязь содержания витамина Д среди детей и подростков с респираторными инфекциями, дается оценка профилактическим мероприятиям с целью развития заболевания и снижения рецидивов.

Ключевые слова: рецидивирующие респираторные заболевания, витамин Д, дети

ҚАЙТАЛАНУВЧИ РЕСПИРАТОР КАСАЛЛИКЛАР БИЛАН КАСАЛЛАНГАН БОЛАЛАРНИ ВИТАМИН Д БИЛАН ТАЪМИНЛАНИШИ.

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Резюме

Ушбу мақолада ўткир респиратор касалликларнинг ривожланиши ва кечишида витамин Днинг таъсир натижалари, ўсмирлар ва болаларнинг респиратор инфекциялар билан касалланишида витамин Д миқдорининг боғлиқлиги, қайталаниш ва ривожланишини камайтиришда профилактик чора-тадбирларни бахолаш тўғрисида келтирилган.

Калит сўзлар: қайталанувчи респиратор касалликлар, Витамин Д, болалар

Relevance

For the space of many years, the calcitriol deficit was associated only with rickets in childhood and osteoporosis in adults. Multiple modern data of foreign and home scientists proved the significance of its insufficiency in formation of such diseases as cardiovascular, endocrine, nervous, immune and other systems [1]. Taking into account that in the structure of infectious diseases the acute respiratory infections (ARI) compose more than 90 %, it becomes obvious the necessity to put into practice the modern approaches to prophylaxis and cure Vitamin D deficit at children with ARI as well as especially often sick kids [2, 3, 4, 5].

According to data of some researchers the part of children suffering more than 6 times yearly were hesitated in wide range from 15 to 75 % and having no tendency to decrease it [6]. In given category of children, except relapsing infections of respiratory tract (who were observed more than 6 times yearly), from the early age were diagnosed the diseases of ENT-organs, bronchopulmonary system, gastrointestinal tract, syndrome of vegetative dysfunction, allergic

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diseases, which dictates special approach to observation of these kids and choice of prophylactic means [7, 12].

Many researchers speak about influence of Vitamin D on many systems of organism including bronchopulmonary, digestive, immune, endocrine, nervous and other systems, which was proved with finding receptors to Vitamin D in many tissues of organism [8, 9, and 10]. Last years there was open and gathered the convincing information about the role of calcidiol in many biological processes including regulation of nervous system [11, 13]. The perspectives of use Vitamin D preparations were discussed for prophylaxis infections of respiratory ways.

Aim of study: optimization of diagnosis, effective correction and prevention disorders in status of Vitamin D at children with relapsing respiratory diseases.

Material and methods

There were 75 children at the age from 1 year to 16 years old with relapsing respiratory diseases at in-patient department in TashPMI under our observation and, later they were on ambulatory register. The duration of study was 12 months.

With the aim to evaluate the efficacy of administration Vitamin D, the children were randomized into two groups. The main group was presented by 40 children, who, except systemic pharmacotherapy, were administered Vitamin D in therapeutic and prophylactic dosage. The comparison group composed 35 children who were on standard therapy without use Vitamin D.

By gender and age signs, the groups were comparable.

At supplementation with mycelyzed form of Vitamin D the doses were calculated by international clinical manuals [15], according to them the children with deficit of Vitamin D the children under 12 years old the daily dose was 6000 units, older 12 years old it was 10000 units for 3 months. At insufficiency of Vitamin D, the dose of Aquadetrim composed 2000ME, which was taken for 2 months.

After finishing the main course of treatment all children were carried out the support therapy with Vitamin D, independently from insufficiency or deficit of Vitamin D (active calcium), taking into account out the high percentage content of elementary calcium and its better assimilation. The calcium was calculated per 30-75 mg/k daily [14].

At children admitted to the hospital, the duration of ARD was from some hours to 10 days, mainly 1–2 days. Averagely the term of disease remoteness in main group was 2,1 ± 0,9 , in comparison group it was 1,9±0,7 days.

Among children admitted to in-patient department the diseases of upper respiratory ways were prevailed, they were: acute rhinopharyngitis (27,5% in main group and 30% in comparison group) as well as acute stenosing laryngotracheitis (per 50% in both groups).

The ARD rate was various for a year in observing groups and composed from 2 to 12 episodes a year. Averagely in main group it was registered as 6,5±2,6, in comparison group it was 5,5±1,4 times a year (p>0,05).

In main and comparison groups the children with ARD were prevailed more than 5 times 87,5 and 80% accordingly.

All observing patients admitted to the hospital had various relapsing diseases of respiratory tract, among those were stenosing laryngotracheitis, rhinitis, adenoiditis, angina, chronic tonsillitis and others.

The diagnosis of diseases was verified on the base of detailed gathered anamnesis, complex of clinical, laboratory and instrumental examinations.

Vitamin D was determined by IFA method on apparatus Elecsys-2010 (Switzerland). Under the deficit of Vitamin D was understood the decrease of concentration 25(OH)D in blood serum less than 20 ng/ml (50 nmol/l); insufficiency of Vitamin D is when concentration of 25(OH)D in blood serum is kept in range 21-29 nanograms/ml. Vitamin D sufficiency is when concentration in blood serum is more than 30 ng/ml [Holick M. F. Vitamin D deficiency. N. Engl. // J. Med. – 2007. - N 357. – P. 266–281].

Result and discussion

Among examined children only 30,7% (23 from 75) were observed normal content of Vitamin D in blood serum, but 69,3% patients were revealed different disorders (pic. 1): D-vitamin insufficiency (28,0%), D-vitamin deficit (41,3%).

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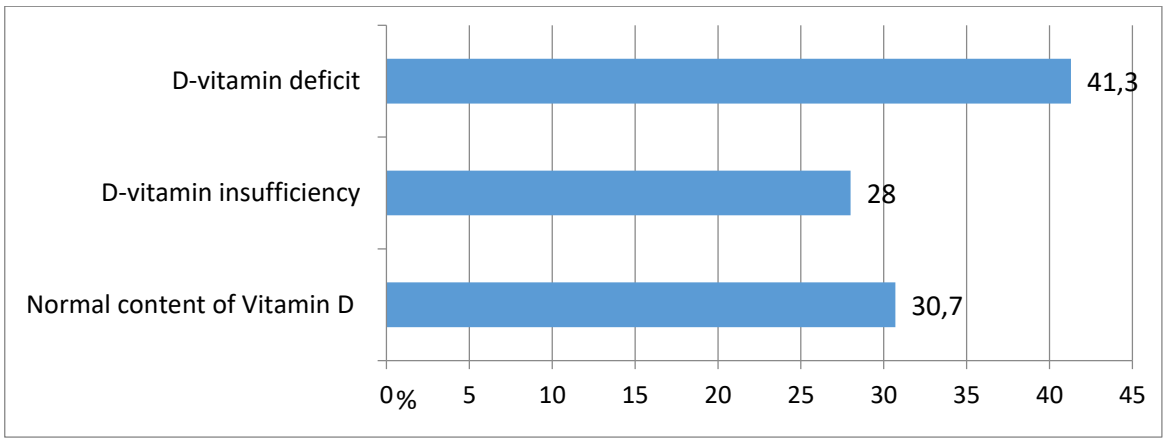

Pic. 1. Percentage ratio of Vitamin D level in blood of children with ARI

The average indices of Vitamin D at children with ARI composed 25,6±1,2 ng/mlмл.

ARI-frequency was also connected with Vitamin D level in blood serum. The taken data are presented in Table 1.

So it was true often that deficit of Vitamin D was marked at children with relapsing respiratory infections more than 5 times a year, and, in relation to children whose relapses were more rare than 5 times a year (16,7% against 57,8%; P<0,01).

At the moment of experiment no one child took Vitamin D in prophylactic doses.

Table 1

Distribution of children with different content of Vitamin D depending on ARI- frequency

Level of Vitamin D	Frequency of relapsing ARI			
	to 5 times a year (n=30)		more than 5 times a year (45)	
Deficit of Vitamin Д (n=31)	5	16,7	26	57,8
Insufficiency of Vitamin D (n=28)	7	23,3	14	31,1
Norm (n=23)	18	60,0	5	11,1

At comparison analysis of terms main clinical diseases symptoms disappearance in children of main group and comparison group there were revealed true differences which were shown in Table 2.

Table 2

Effectivity of administration Vitamin D in children with at hospital treatment

Groups	Disappearance terms of clinical diseases symptoms				Bed-days
	Temperature	Intoxication	Dyspnea	Cough	
OG	2,1±0,3	3,5±0,17	2,7±0,22	6,0±0,25	7,63±0,3
GC	3,8±0,3*	4,5±0,2*	3,7±0,3	6,8±0,2	8,7±0,5*

** - True data ratio of comparison group (*-P<0,05); OG – main group, GC– comparison group*

Average duration of bed-days in main group composed 7,63±0,3, but in comparison group it was 8,7±0,5 (P<0,05)

At the result it was determined that addition of Vitamin D reduced the risk of development not only one episode of ARI on 12% ratio chanceso(RC) 0,88; 95% believing interval (BI) 0,81-0,96; p < 0,001).

Simultaneously with facilitating course of main disease it was also marked the general state of patients which was revealed in increasing of physical and mental activity, reduce display of tiredness and weakness, decrease of headaches episodes, dizziness, improvement of appetite and sleeping.

Thus, the use Vitamin D was not accompanied with development unfavourable drug reactions and led to true diminish the numbers of ARI-episodes at outcome deficit of Vitamin D.

Thus, on the base of taken study there can be made the following **conclusions:**

1. Children with ARI, particularly having secondary respiratory diseases, are observed

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hypovitaminosis, tha leads to secondary disorders of calcium metabolism and systems of its regulation.

2. Conservative and prophylactic Vitamin D treatment of children with ARI promotes to normalization of Vitamin D supply and reduce morbidity with secondary ARI.
3. Timely reveal, prophylaxis and treatment insufficiency of Vitamin D provides complex approach to formation children health who has risk factors which can develop relapsing infections of respiratory tract.

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ВОЗМОЖНОСТИ ФРАКСЕЛЬНЫХ CO2 ЛЕЗЕРОВ В ЛЕЧЕНИИ ПОСТАКНЕ РУБЦОВ

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Резюме

В данной научной работе показанно сочетанное применение абляционного термолиза CO2-лазером и аутологичной обогащѐнной плазмы позволило достигнуть значительного клинического улучшения в виде уменьшение диаметра U- и M-образных атрофических рубцов на 70–80% на коже лица (рис. 1), уменьшения выраженности и количества гипертрофических рубцов на 50–60% на коже спины (рис. 2). В результате проведенного лечения отмечено улучшение регенерации кожи в местах атрофических и гипертрофических рубцов, также улучшение тургора, эластичности кожи, еѐ витальности и цвета. При этом удовлетворенность результатом коррелировала с увеличением количества процедур и постепенным увеличением промежутков между ними, также увеличением параметров процедур на CO2- лазере (величина мощности увеличивалась с каждой процедурой на 2W, длительности импульса – на 100qs.

Ключевые слова: возможности фраксельных CO2 лезеров в лечении, постакне рубцы, U- и M-образных атрофических рубцы области лица.

POSSIBILITIES OF FRAXEL CO2 LASERS IN THE TREATMENT OF POST-ACNE SCARS

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Resume

In this scientific work, the combined use of ablative thermolysis with a CO2 laser and autologous enriched plasma has been shown to achieve significant clinical improvement in the form of a decrease in the diameter of U- and M-shaped atrophic scars by 70–80% on the skin of the face (Fig. 1), a decrease in the severity and the number of hypertrophic scars by 50–60% on the skin of the back (Fig. 2). As a result of the treatment, an improvement in skin regeneration was noted in places of atrophic and hypertrophic scars, as well as an improvement in turgor, skin elasticity, its vitality and color. At the same time, satisfaction with the result correlated with an increase in the number of procedures and a gradual increase in the intervals between them, as well as an increase in the parameters of procedures on a CO2 laser (the power value increased with each procedure by 2W, the pulse duration - by 100qs.

Key words: possibilities of fraxel CO2 lasers in treatment, post-acne scars, U- and M-shaped atrophic scars of the facial area.

FRAXEL CO2 LAZERLARNING AKNEDAN SO'NGI CHANDIQLARINI DAVOLASH IMKONIYATLARI

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Rezyume

Ushbu ilmiy ishda ablativ termolizni CO2 lazeri va autolog bilan boyitilgan plazma bilan birgalikda qo'llash U va M shaklidagi atrofik chandiqlar diametrini 70-80% ga qisqartirish shaklida sezilarli klinik yaxshilanishga erishishi ko'rsatilgan. Yuz terisida (1-rasm), orqa terisida gipertrofik izlarning zo'ravonligi va sonining 50-60% ga kamayishi (2-rasm). Davolash natijasida atrofik va gipertrofik chandiqlar bo'lgan joylarda terining yangilanishi yaxshilangan, shuningdek, turgor, terining elastikligi, uning hayotiyligi va rangi yaxshilangan. Shu bilan birga, natijadan qoniqish protseduralar sonining ko'payishi va ular orasidagi intervallarning asta-sekin o'sishi, shuningdek CO2 lazeridagi protseduralar parametrlarining oshishi bilan bog'liq (har bir protsedura bilan quvvat qiymati ortib borardi). 2W ga, zarba davomiyligi - 100qs ga.

Kalit so'zlar: davolashda fraksel CO2 lazerlarining imkoniyatlari, aknedan keyingi chandiqlar, yuzning U va M shaklidagi atrofik chandiqlari.

Актуальность

На сегодняшний день постугревые рубцы, сильно влияют на качество жизни, и являются частой причиной обращения пациента к врачу. Большинство работ направлены на решение данной проблемы. [1–4]. Пациенты с данной патологией имеют проблемы как социальные и коммуникабельные, даже возможно развитие тяжелого депрессивного состояния, немаловажным моментом в наше время играет физическая привлекательность играет роль и позволяет достичь значительно большего успеха как в профессиональной деятельности, так и в личной жизни. Сформировавшиеся, порой обезображивающие, последствия акне беспокоят пациентов не меньше, чем активные проявления самого дерматоза.

В патогенезе возникновения симптомов постакне, безусловно, имеет значение глубина повреждения. Эритема и пигментация являются результатом травматизации эпидермиса, тогда как рубцы – дермы [5]. В то время как эритема и пигментация носят временный характер, рубцовые изменения кожи остаются навсегда, тем самым, оказывая значительно большее влияние на психоэмоциональную сферу пациентов и заслуживая большего внимания врачей. Нет единого согласованного мнения среди специалистов по ведению пациентов с рубцами постакне. Для выбора метода коррекции рубцов постакне первостепенное значение для специалиста имеет отсутствие или наличие воспалительных элементов. Присутствие воспалительных элементов лечение должно быть направлено на обеспечение долгосрочной ремиссии заболевания, в том числе с целью профилактики формирования новых рубцов [5], поэтому важно знать, что наиболее правильным является раннее и продолжительное лечение акне именно у врача дерматолога, а уже в последующем - врача с целью разрешения рубцов постакне.

Лазерная абляция является одним из перспективных методов коррекции рубцовых из мнений кожи, в том числе в комбинации с другими методами. Принцип лазерной абляции фракционным режимом преобразила лазерную хирургию, позволив добиваться коагуляции дермы без значительного повреждения эпидермиса, снижая таким образом риск рубцевания, гипопигментации и время восстановительного периода [6, 7]. В ходе процедуры фракционного термолиза в коже формируются микротермальные лечебные зоны, на месте которых в последующем запускается каскад реакций асептического воспаления структур дермы. Эффективность коррекции рубцов обусловлена как прямым термическим, так и опосредованным гистохимическим действием (синтез белков теплового шока, факторов роста и др.) [8].

Технические особенности работы углекислотных лазерных систем: возможность регулирования плотности потока и длительности импульсов, выбор количества и глубины нагревания дермы – CO_2-лазеры являются наиболее безопасными и эффективными среди фракционных систем в лечении постэруптивных изменений кожи [9].

Использование аутологичной обогащѐнной плазмы, также показало высокую эффективность в терапии постакне благодаря возможности стимулировать пролиферативную и синтетическую активность фибробластов дермы, моделировать и улучшать регенерацию тканей [10, 11]. Комплексное использование

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абляционного фотодеструкции углекислотным лазером и аутоплазмы приводит к уменьшению выраженности побочных явлений от воздействия лазером (инфекционно-воспалительный процесс, длительная эритема, рубцевание, дисхромии) и более выраженному лечебному эффекту, чем при использовании каждой из методик в отдельности [12].

Целью лечения является уменьшение клинических проявлений атрофических и гипертрофических рубцов постакне, обеспечение максимально короткого периода реабилитации после процедур абляции CO_2-лазером, также профилактика побочных явлений от воздействия лазера (инфекционно-воспалительный процесс, длительная эритема, рубцевание, дисхромии) и усиление процессов регенерации кожи.

Цель исследования: Изучить сочетанное применение абляционного термолиза CO2-лазером и аутологичной обогащѐнной плазмы для клинического улучшения в виде уменьшение диаметра U- и M-образных атрофических рубцов коже лица и тела.

Материал и метод

Покажем описание клинического случая сочетанного применения абляционного термолиза CO_2- лазером (длина волны 10600 Нм) и аутоплазмы в терапии рубцов постакне 4-й степени тяжести.

Больной З., 25 лет, обратился в клинику с жалобами на обильные постугревые изменения кожи лица и спины.

На коже лица и спины отмечаются выраженные множественные постугревые изменения, представленные атрофическими и гипертрофическими рубцами. На коже лица наблюдаются атрофические рубцы диаметром 1–7 мм, преимущественно M и U-образный формы. При натяжении кожи атрофические рубцы не сглаживаются. На верхней, средней и нижней трети спины отмечаются преимущественно (90%) гипертрофические рубцы, диаметром 3–8 мм, остальные 10% приходятся на долю U-образных атрофических рубцов, диаметром 1–5 мм. Атрофические и гипертрофические рубцы на лице и теле хорошо заметны на расстоянии более 50 см. Воспалительные элементы на лице и теле отсутствуют. Кожа лица и спины сухая, тургор и эластичность снижены, II фототип. Больному был проведен комплексный курс процедур на кожу лица, включающий 4 процедуры абляции CO_2-лазером и 8 процедур внутридермального введения аутоплазмы. Процедуры проводили под местной аппликационной анестезией – 5% кремом Эмла. Первые две процедуры АФТ на коже лица были проведены с интервалом в 4 нед, а две последующие процедуры с интервалом в 6 нед. Площадь обрабатываемой зоны на лице составляла 100 см^2: межбровная область, височная область, области щѐк, верхняя губа и подбородок.

Параметры первой процедуры: количество фракционных лазерных импульсов, излучаемых в одну точку – 2; мощность 18 Вт; расстояние между микротермальными повреждениями кожи 500 мкм; длительность им - пульса 600 мкс; вторая процедура: количество фракционных лазерных импульсов в одну точку – 2; мощность 20 Вт;

Расстояние между микротермальными повреждениями кожи 500 мкм; длительность импульса 700 мкс; третья процедура: количество фракционных лазерных импульсов в одну точку – 2; мощность 22 Вт; расстояние между микротермальными повреждениями кожи 500 мкм; длительность импульса 800 мкс; четвертая процедура: количество фракционных лазерных импульсов в одну точку – 2; мощность 24 Вт; расстояние между микротермальными повреждениями кожи 500 мкм; длительность импульса 900 мкс.

Курс внутридермального введения аутоплазмы в кожу лица проведен с интервалом в 14 дней. Первую процедуру проводили сразу после проведения лазерной абляции кожи лица, вторую процедуру – спустя 14 дней. Аутоплазму вводили на глубину 1–2 мм, папульной техникой, с интервалом 1–1,5 см. Также был проведѐн курс процедур на кожу лица, включающий 3 процедуры абляции CO_2-лазером и 6 процедур внутридермального введения аутоплазмы. Ввиду значительной площади обработки рубцов постакне (верхняя треть спины – 600 см^2, средняя треть – 500 см^2, нижняя треть – 300 см^2) и в целях комфортной переносимости процедур, было принято решение условно разделить всю площадь обработки кожи спины соответственно этим 3 зонам. Первые две процедуры лазера и аутоплазмы на каждой зоне спины были проведены с промежутком в 4 нед, третья процедура с промежутком в 6 нед.

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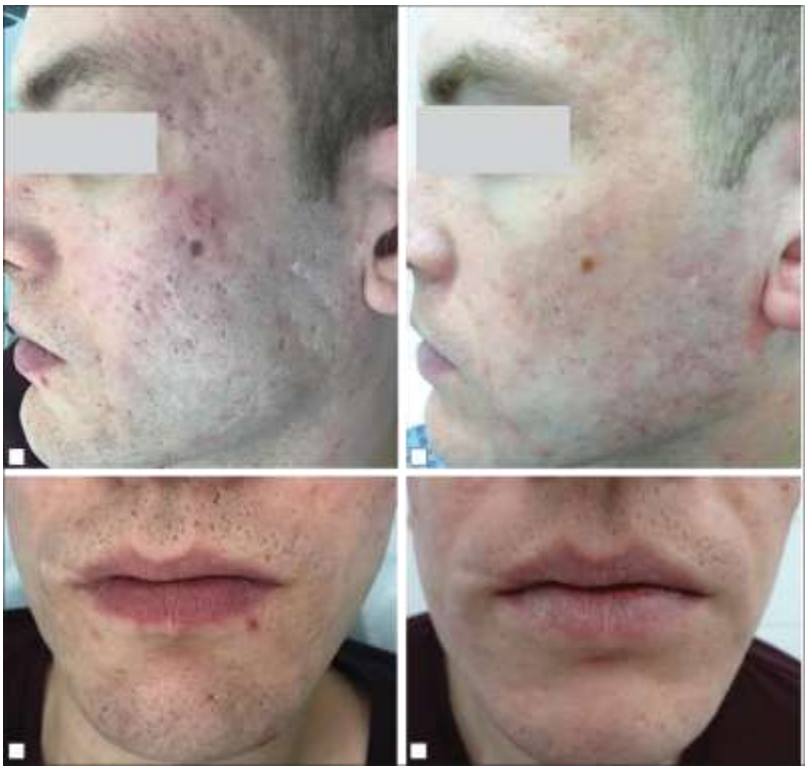
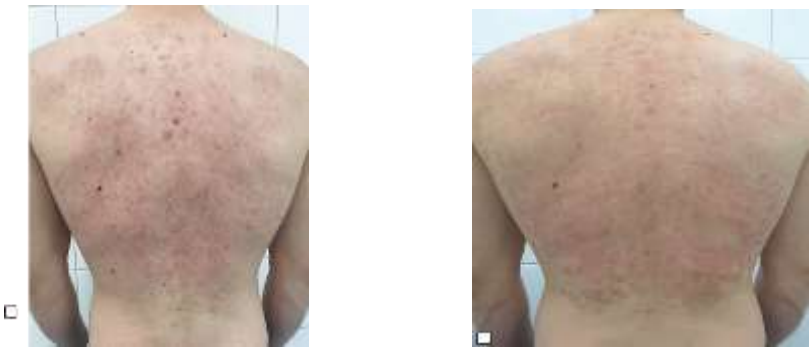


Рис. 1. Атрофические рубцы постакне 4-й степени тяжести после перенесённой угревой болезни. а, в – до курса; б, г – после курса.

Параметры первой процедуры: количество фракционных лазерных импульсов, излучаемых в одну точку – 3, мощность 28 Вт; расстояние между микротермальными повреждениями кожи 500 мкм; длительность им- пульса 700 мкс; вторая процедура: количество фракционных ла- зерных импульсов в одну точку – 3; мощность 30 Вт; расстояние между микротермальными повреждениями кожи 500 мкм; длительность импульса 800 мкс; третья процедура: количество фракционных ла- зерных импульсов в одну точку – 3; мощность 32 Вт; расстояние между микротермальными повреждениями кожи 500 мкм; длительность импульса 900 мкс.



Курс внутридермального введения аутоплазмы был проведен с интервалом в 14 дней. Первую процедуру проводили в день проведения процедуры АФТ, вторую – спустя 14 дней. Аутоплазмы вводили на глубину 1–2 мм, папульной техникой, с интервалом 1,5–2 см.

Результат и обсуждения

Сочетанное применение абляционного термолиза CO2-лазером и аутологичной обогащѐнной плазмы позволило достигнуть значительного клинического улучшения в виде уменьшение диаметра U- и M-образных атрофических рубцов на 70–80% на коже лица (рис. 1), уменьшения выраженности и количества гипертрофических рубцов на 50–60% на коже спины (рис. 2). В результате проведенного лечения отмечено улучшение регенерации кожи в местах атрофических и гипертрофических рубцов, также улучшение тургора, эластичности кожи, еѐ

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витальности и цвета. При этом удовлетворенность результатом коррелировала с увеличением количества процедур и постепенным увеличением промежутков между ними, также увеличением параметров процедур на CO_2-лазере (величина мощности увеличивалась с каждой процедурой на 2W, длительности импульса – на 100qs. Осложнений после проведѐнных процедур лазера и плазмотерапии (инфекционно-воспалительного процесса, длительной эритемы, рубцевания, дисхромий) не отмечалось. Этому способствовали: комбинация лазера и плазмотерапии, подготовка пациента топическими ретиноидами к началу терапии рубцов постакне, адекватно подобранные параметры проведѐнных процедур лазера, исходя из физиологических особенностей пациента, и постепенное увеличение промежутков между процедурами. В ранний восстановительный период (0–7 дней) пациентом проводилась местная терапия в виде антисептических препаратов, топических антибактериальных и эпителизирующих средств; в поздний восстановительный период (7–30-е сутки) активно применялись эмоленты и фотопротекторы (SPF более 30).

Вывод

Ввиду короткого периода приема системных ретиноидов в период терапии вульгарных угрей (6 мес), также с целью сокращения сроков восстановительного периода после процедуры АФТ и профилактики побочных эффектов пациенту рекомендовано применение системных ретиноидов (роакутан) 10 мг в день – 3 мес (до наступления летнего периода). Спустя 4-6 мес после приѐма топических ретиноидов (сентябрь-ноябрь, 2018 г.) планируется проведение очередного курса комплексной терапии постакне: 2–3 процедуры абляционного термолиза CO_2-лазером и аутоплазмы с интервалом в 30–60 дней, с последующим назначением топических ретиноидов.

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