

CRR
JOURNAL
OF CARDIORESPIRATORY RESEARCH

ISSN 2181-0974
DOI 10.26739/2181-0974



Journal of
**CARDIORESPIRATORY
RESEARCH**

Special Issue 1.1

2022



АССОЦИАЦИЯ
ТЕРАПЕВТОВ
УЗБЕКИСТАНА



МИНИСТЕРСТВО
ЗДРАВООХРАНЕНИЯ
РЕСПУБЛИКИ УЗБЕКИСТАН



САМАРКАНДСКИЙ
ГОСУДАРСТВЕННЫЙ
МЕДИЦИНСКИЙ УНИВЕРСИТЕТ

ИННОВАЦИОННЫЕ ТЕХНОЛОГИИ В ЗДРАВООХРАНЕНИИ: НОВЫЕ ВОЗМОЖНОСТИ ДЛЯ ВНУТРЕННЕЙ МЕДИЦИНЫ

МАТЕРИАЛЫ

международной научно-практической конференции
(Самарканд, 22 апрель 2022 г.)

Под редакцией
Ж.А. РИЗАЕВА

ТОМ I

Самарканд-2022

ОРГАНИЗАЦИОННЫЙ КОМИТЕТ КОНФЕРЕНЦИИ

Жасур Алимджанович РИЗАЕВ
доктор медицинских наук, профессор
(отв. редактор)

Шухрат Худайбердиевич ЗИЯДУЛЛАЕВ
доктор медицинских наук
(зам. отв. редактора)

РЕДАКЦИОННАЯ КОЛЛЕГИЯ:

Элеонора Негматовна ТАШКЕНБАЕВА
Наргиза Нурмаатовна АБДУЛЛАЕВА
Гуландом Зикриллаевна ШОДИКУЛОВА
Мухайё Бердикуловна ХОЛЖИГИТОВА
Заррина Бахтияровна БАБАМУРАДОВНА
Саодат Хабибовна ЯРМУХАММЕДОВА
Шоира Акбаровна ХУСИНОВА
Ирина Рубеновна АГАБАБЯН

Инновационные технологии в здравоохранении: новые возможности для внутренней медицины: Материалы международной научно-практической конференции (г. Самарканд, 22 апрель 2022 г.) / отв. ред. РИЗАЕВ Ж.А. - Самарканд: СамГМУ, 2022. – 736 с.

В сборнике собраны материалы, которые содержат статьи и тезисы докладов, представленных на международной научно-практической конференции «Инновационные технологии в здравоохранении: новые возможности для внутренней медицины», проведенной в СамГМУ 22 апрель 2022 г. Значительная часть материалов отражает современные проблемы внутренней медицины, посвященные поиску эффективных методов диагностики, лечения и профилактики заболеваний внутренних органов.

Представленные материалы будут интересны специалистам всех направлений внутренней медицины и широкому кругу читателей, интересующихся вопросами возникновения и профилактики основных заболеваний терапевтического профиля.

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ
РЕСПУБЛИКИ УЗБЕКИСТАН

ЖУРНАЛ КАРДИОРЕСПИРАТОРНЫХ ИССЛЕДОВАНИЙ

Главный редактор: Э.Н.ТАШКЕНБАЕВА

Учредитель:

Самаркандский государственный
медицинский институт

Tadqiqot.uz

Ежеквартальный
научно-практический
журнал



ISSN: 2181-0974
DOI: 10.26739/2181-0974



№SI-1.1
2022

Главный редактор:

Ташкенбаева Элеонора Негматовна

доктор медицинских наук, проф. заведующая кафедрой внутренних болезней №2 Самаркандского Государственного Медицинского института, председатель Ассоциации терапевтов Самаркандской области. <https://orcid.org/0000-0001-5705-4972>

Заместитель главного редактора:

Хайбулина Зарина Руслановна

доктор медицинских наук, руководитель отдела биохимии с группой микробиологии ГУ «РСНПМЦХ им. акад. В. Вахидова» <https://orcid.org/0000-0002-9942-2910>

ЧЛЕНЫ РЕДАКЦИОННОЙ КОЛЛЕГИИ:

Аляви Анис Лютфуллаевич

академик АН РУз, доктор медицинских наук, профессор, Председатель Ассоциации Терапевтов Узбекистана, Советник директора Республиканского специализированного научно-практического центра терапии и медицинской реабилитации (Ташкент) <https://orcid.org/0000-0002-0933-4993>

Бокерия Лео Антонович

академик РАН, доктор медицинских наук, профессор, Президент научного центра сердечно-сосудистой хирургии им. А.Н. Бакулева (Москва), <https://orcid.org/0000-0002-6180-2619>

Курбанов Равшанбек Давлетович

академик АН РУз, доктор медицинских наук, профессор, Советник директора Республиканского специализированного научно-практического медицинского центра кардиологии (Ташкент) <https://orcid.org/0000-0001-7309-2071>

Michał Tendera

профессор кафедры кардиологии Верхнесилезского кардиологического центра, Силезский медицинский университет в Катовице, Польша (Польша) <https://orcid.org/0000-0002-0812-6113>

Покушалов Евгений Анатольевич

доктор медицинских наук, профессор, заместитель генерального директора по науке и развитию сети клиник «Центр новых медицинских технологий» (ЦНМТ), (Новосибирск), <https://orcid.org/0000-0002-2560-5167>

Акилов Хабибулла Атауллаевич

доктор медицинских наук, профессор, Директор Центра развития профессиональной квалификации медицинских работников (Ташкент)

Цурко Владимир Викторович

доктор медицинских наук, профессор Первого Московского государственного медицинского университета им. И.М. Сеченова (Москва) <https://orcid.org/0000-0001-8040-3704>

Абдиева Гулнора Алиевна

ассистент кафедры внутренних болезней №2 Самаркандского Медицинского Института <https://orcid.org/0000-0002-6980-6278> (ответственный секретарь)

Ризаев Жасур Алимджанович

доктор медицинских наук, профессор, Ректор Самаркандского государственного медицинского института <https://orcid.org/0000-0001-5468-9403>

Зиядуллаев Шухрат Худойбердиевич

доктор медицинских наук, доцент, проректор по научной работе и инновациям Самаркандского Государственного медицинского института <https://orcid.org/0000-0002-9309-3933>

Зуфаров Миржамол Мирумарович

доктор медицинских наук, профессор, руководитель отдела ГУ «РСНПМЦХ им. акад. В. Вахидова» <https://orcid.org/0000-0003-4822-3193>

Ливерко Ирина Владимировна

доктор медицинских наук, профессор, заместитель директора по науке Республиканского специализированного научно-практического медицинского центра фтизиатрии и пульмонологии Республики Узбекистан (Ташкент) <https://orcid.org/0000-0003-0059-9183>

Камилова Умида Кабировна

д.м.н., профессор, заместитель директора по научной работе Республиканского специализированного научно-практического медицинского центра терапии и медицинской реабилитации (Ташкент) <https://orcid.org/0000-0002-1190-7391>

Тураев Феруз Фатхуллаевич

доктор медицинских наук, Директор Республиканского специализированного научно-практического медицинского центра эндокринологии имени академика Ю.Г. Туракулова

Саидов Максуд Арифович

к.м.н., директор Самаркандского областного отделения Республиканского специализированного научно-практического медицинского центра кардиологии (г. Самарканд)

Насирова Зарина Акбаровна

PhD, ассистент кафедры внутренних болезней №2 Самаркандского Государственного Медицинского Института (ответственный секретарь)



Насырова Зарина Акбаровна,

Phd, ассистент кафедры
внутренних болезней №2
Самаркандский Государственный
Медицинский Университет
Самарканд, Узбекистан


Абдуллоева Мафтуна Дильшодовна,

Резидент магистратуры кафедры
внутренних болезней №2
Самаркандский Государственный
Медицинский Университет
Самарканд, Узбекистан

Очилов Улугбек Усманович

Phd, Заведующий курсом Психиатрии
Факультета Последипломного Образования
Самаркандский Государственный
Медицинский Университет
Самарканд, Узбекистан

ОСОБЕННОСТИ ПСИХОСОМАТИЧЕСКИХ ФАКТОРОВ РИСКА У ПАЦИЕНТОВ С НЕСТАБИЛЬНОЙ СТЕНОКАРДИЕЙ

 <http://dx.doi.org/10.26739/2181-0974-2022-SI-1-1>

АННОТАЦИЯ

Были отобраны 138 пациентов с нестабильной стенокардией. Средний возраст был равен $61,34 \pm 12,26$ лет. Среди больных мужской пол превалировал и составил 56% (n= 78). Больные были отобраны в Самаркандском Филиале Республиканского научного центра экстренной медицинской помощи, в отделениях экстренной терапии №1, 2 и соматической реанимации. Современные лабораторные методы диагностики, приведенные в данной работе, позволили подтвердить важность участия психосоматических тестов, инструментальных исследований и биохимических механизмов в патогенезе развития дестабилизации КБС, что в свою очередь будет способствовать улучшенному и персонифицированному подходу к терапии и профилактике данного патологического состояния, а также улучшению прогноза и снижению кардиоваскулярных осложнений и летальности. Больным НС в коморбидности с психоэмоциональным расстройством свойственно частые госпитализации в связи с сердечно-сосудистыми событиями и низкой выживаемостью. Больным с хронической коронарной болезнью сердца проведение опроса по данным сенсорной шкалы MPQ позволило выявить более сильные болевые синдромы среди больных нестабильной стенокардией и психоэмоциональными расстройствами (ПЭР).

Nasyrova Zarina Akbarovna ,

PhD, Assistant of the Department of
Internal Medicine No. 2
Samarkand State Medical University
Samarkand, Uzbekistan

Abdulloeva Maftuna Dilshodovna,

Resident of the magistracy of the Department of
Internal Diseases No. 2
Samarkand State Medical University
Samarkand, Uzbekistan

Ochilov Ulugbek Usmanovich

PhD, Head of the Course of Psychiatry



Faculty of Postgraduate Education
Samarkand State Medical University
Samarkand, Uzbekistan.

FEATURES OF PSYCHOSOMATIC RISK FACTORS IN PATIENTS WITH UNSTABLE ANGINA

ANNOTATION

138 patients with unstable angina were selected. The mean age was 61.34 ± 12.26 years. Among patients, the male gender prevailed and amounted to 56% ($n = 78$). Patients were selected in the Samarkand Branch of the Republican Scientific Center for Emergency Medical Care, in the departments of emergency therapy No. 1, 2 and somatic resuscitation. Modern laboratory diagnostic methods presented in this paper have confirmed the importance of the participation of psychosomatic tests, instrumental studies and biochemical mechanisms in the pathogenesis of the development of CAD destabilization, which in turn will contribute to an improved and personalized approach to the treatment and prevention of this pathological condition, as well as to improve prognosis. And reduce cardiovascular complications and mortality. Patients with UA in comorbidity with a psycho-emotional disorder are characterized by frequent hospitalizations due to cardiovascular events and low survival. In patients with chronic coronary heart disease, a survey according to the MPQ sensory scale revealed more severe pain syndromes among patients with unstable angina and psycho-emotional disorders.

Nasirova Zarina Akbarovna

PhD, №2 ichki kasalliklar kafedrası assistenti
Samarqand Davlat Tibbiyot Universiteti
Samarqand, O'zbekiston

Abdulloeva Maftuna Dilshodovna

2-sonli ichki kasalliklar kafedrası
magistratura rezidenti
Samarqand Davlat Tibbiyot Universiteti
Samarqand, O'zbekiston

Ochilov Ulug'bek Usmonovich

PhD, Diplomdan keying ta'lim fakulteti
Psixiatriya kursi mudiri
Samarqand Davlat Tibbiyot Universiteti
Samarqand, O'zbekiston

STABIL BO'LMAGAN STENOKARDIYA BILAN OG'RIGAN BEMORLARDA PSIXOSOMATIK XAVF OMILLARINING XUSUSIYATLARI

ANNOTATSIYA

Stabil angina bilan og'rigan 138 nafar bemor tanlab olindi. O'rtacha yoshi $61,34 \pm 12,26$ yoshni tashkil etdi. Bemorlar orasida erkak jinsi ustunlik qildi va 56% ($n = 78$) ni tashkil etdi. Respublika shoshilinch tibbiy yordam ilmiy markazi Samarqand filiali, 1, 2-sonli shoshilinch terapiya va somatik reanimatsiya bo'limlarida bemorlar tanlab olindi. Ushbu ishda taqdim etilgan zamonaviy laboratoriya diagnostika usullari SAPR destabilizatsiyasi rivojlanishining patogenezida psixosomatik testlar, instrumental tadqiqotlar va biokimyoviy mexanizmlarning ishtiroki muhimligini tasdiqladi, bu esa o'z navbatida davolashga takomillashtirilgan va shaxsiylashtirilgan yondashuvga yordam beradi. ushbu patologik holatning oldini olish, shuningdek, prognozni yaxshilash va yurak-qon tomir asoratlari va o'limni kamaytirish. Psixoemosional buzilish bilan birga keladigan NS bilan og'rigan bemorlar yurak-qon tomir kasalliklari va kam omon qolish tufayli tez-tez kasalxonaga yotqizilishi bilan tavsiflanadi. Surunkali koroner yurak kasalligi bo'lgan bemorlar uchun MPQ sensorli shkalasiga asoslangan so'rov beqaror angina va PEB bilan og'rigan bemorlarda yanada kuchli og'riq sindromlarini aniqladi.

Relevance. Cardiovascular disease (CVD) and psycho-emotional disorders are common. Patients with CVD, namely with chronic coronary heart disease, are more likely to suffer from psycho-emotional disorders than the general population. People with psycho-emotional disorders are more likely to eventually develop cardiovascular disease and have a higher mortality rate than the population with an isolated psycho-emotional disorder. Patients with cardiovascular disease who are also psycho-emotionally disordered have a worse outcome than patients who do not suffer from psycho-emotional disorders. There is a stepwise relationship: the more severe the psycho-emotional disorder, the higher the subsequent risk of death and other cardiovascular events [4].

It is possible that psycho-emotional disorders are only a marker of more severe cardiovascular diseases, which cannot yet be detected using the currently available studies. However, given the increased prevalence of psycho-emotional disorders in patients with cardiovascular disease, a causal relationship is likely with cardiovascular disease, causing more pronounced psycho-emotional disorders, or with depression, causing more frequent cardiovascular disease, and a worse prognosis for cardiovascular disease. Many possible pathogenic mechanisms have been described that are plausible and may well be important [2,3].

However, regardless of the presence of a causal relationship, psycho-emotional disorders are a major factor in the quality of life and in itself require prevention, detection and treatment. Psycho-emotional disorders after an acute heart attack are usually an adjustment disorder that may improve spontaneously with complex cardiac management. Additional management strategies for patients with cardiac psycho-emotional disorders include cardiac rehabilitation and exercise programs, general support, cognitive behavioral therapy, antidepressant medication, combination approaches, and possibly disease management programs [2, 6].

Purpose of the study: to assess the role of psychosomatic risk factors in patients with unstable angina pectoris and the frequency of their occurrence.

Materials and methods of research: 138 patients with unstable angina pectoris were selected. The mean age was 61.34 ± 12.26 years. Among patients, the male gender prevailed and amounted to 56% (n = 78). Patients were selected in the Samarkand Branch of the Republican Scientific Center for Emergency Medical Care, in the departments of emergency therapy No. 1, 2 and somatic resuscitation.

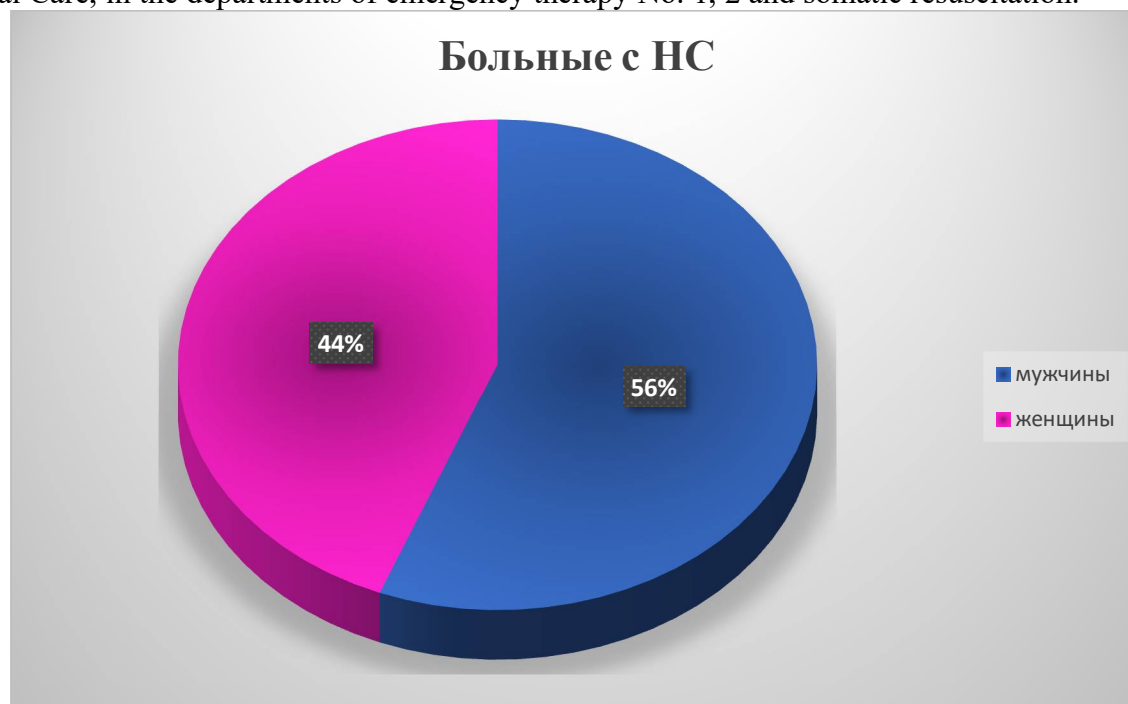


Figure 1. Gender distribution of patients

When distributing patients by age, following the WHO classification (2017), it was found that there were more patients aged 60 to 74 than in other groups.

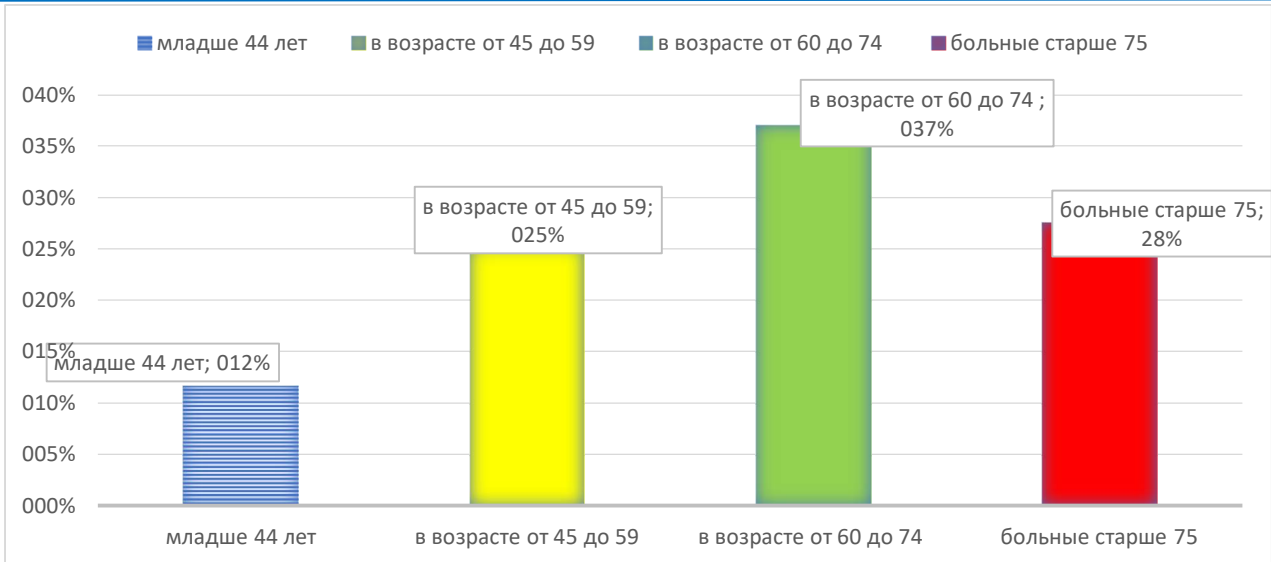


Figure 2. Distribution of patients by age (WHO, 2017)

Several questionnaires have been used to assess the degree of anxiety and depression in patients with destabilized chronic coronary heart disease.

In addition, we used the Spielberger-Khanin scale to calculate the types of anxiety. Despite the abundance of psychological diagnostic methods, only the technique of Ch. Spielberger and Yu. Khanin allows you to simultaneously measure anxiety as a state of health and as a characteristic of a person. The technique was developed by the American clinical psychologist Charles Spielberger, adapted to the everyday realities of Yuri Khanin, which is why he got his name.

It is believed that this is one of the best diagnostics. The Spielberger-Khanin method consists of a questionnaire containing 40 statements. Items 1 to 20 are focused on determining the level of situational anxiety. Positions with numbers 21-41 will characterize personal anxiety.

Results of the study: The HADS scale showed that 82 (60.7%) patients had anxiety and depression in various degrees. For example, when questioning patients on the HADS - D scale, 17 cases of mild depression, 23 cases of moderate depression and 42 cases of severe depression were identified. When questioned on the second part of the HADS - A scale, 24 cases of mild anxiety, 28 cases of moderate anxiety and 30 cases of severe anxiety were identified (Fig. 5).

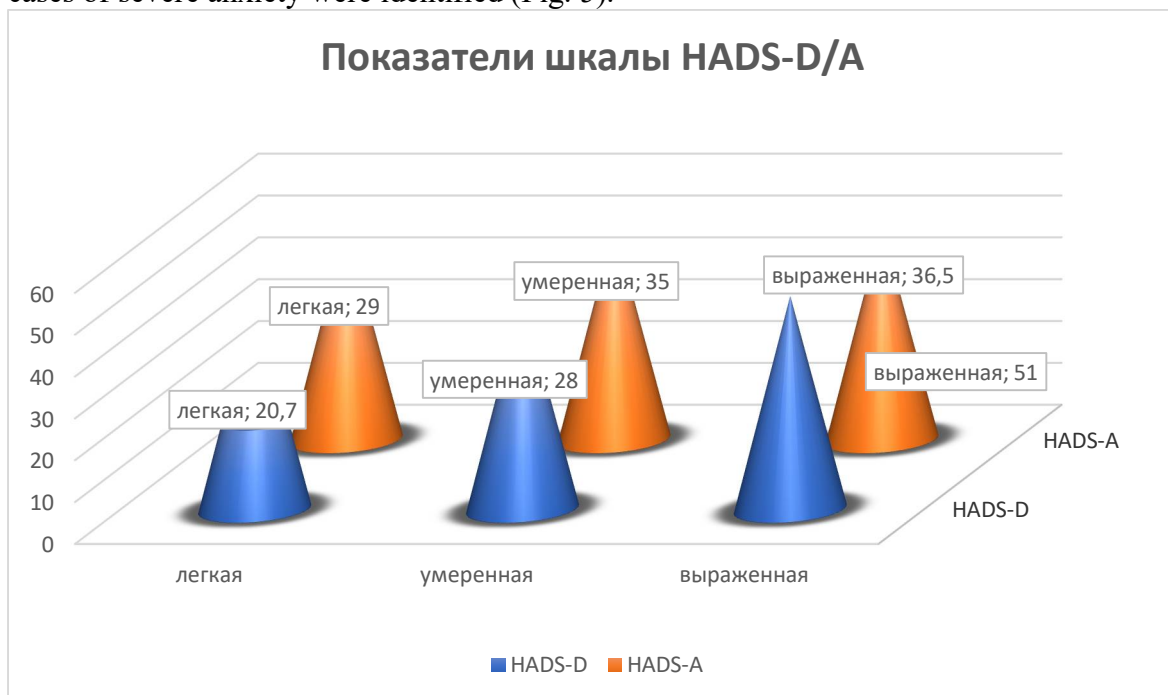


Figure 5. HADS - D / A scale indicators.

When conducting a survey on the Spielberger-Khanin scale, anxiety was detected in 86 patients. Situational anxiety (ST) was detected in 86 patients, of which 21 patients had mild anxiety, 29 patients had moderate anxiety, and 36 patients had clinically significant anxiety. Personal anxiety, in contrast to situational anxiety, was detected in 64 patients, of which 23 patients had mild, 28 moderate and 15 patients had severe anxiety (Table 1).

Table 1

Distribution of patients depending on the type and severity of anxiety according to the Spielberger-Khanin scale

Spielberger-Khanin scores	Light	Moderate	Expressed
ST (n=86)	21 (24.4%)	29 (33.7 %)	36(41.8%)
LT (n=64)	23(35.9%)	28(43.7%)	15(23.4%)

All patients with unstable angina were assessed for pain using the McGill questionnaire (MPQ).

When conducting a survey of patients to identify the intensity of pain during angina attacks, it was found that 63.7% of patients described pain on all scales as intense, i.e., statistically significant differences were observed on all scales and it should be noted that out of 63.7% of patients, 57.7% had a psycho-emotional disorder of varying severity, which shows a direct relationship between the occurrence of pain syndrome and psycho-emotional disorder.

According to the MPQ sensory scale, patients with PED described their pain syndrome most often with descriptor words, which had a small serial number: 1 or 2. However, words were chosen in almost every row, which indicates a variety of pain sensations. Patients without PED described the pain syndrome with a small number of descriptor words (one or two), which also had a low rank, choosing the classic characteristics of anginal pain, pressing pain in 20 patients (40%), compressing pain in 23 (46%), constricting pain in 11 (22%), grasping pains 13 (26%). Patients with PED had a small rank index of pain (RIB) of 18.9 ± 2.78 (with the maximum possible value of 72), this indicator shows the overall intensity of pain. The results of this indicator in patients with angina pectoris without PED ($RIB = 11.8 \pm 2.6$) were significantly lower ($p < 0.001$), which indicates a lower pain intensity in this category of patients, in contrast to patients with PED.

Patients with PED with a subjective assessment of pain on three scales of the McGill questionnaire described the pain syndrome with descriptor words of a higher rank than patients without PED. The index of the number of selected descriptors on the McGill pain questionnaire scale was also significantly higher ($p < 0.001$) in patients with PER (9.6 ± 0.7 versus 6.4 ± 0.8), i.e., Patients with PER chose a significantly larger number of descriptor words when describing the pain syndrome than patients without PED.

When analyzing the correlation between MPQ indicators among patients with and without PER, it turned out that the rating scale data among patients with PER had an average correlation with emotional scale indicators ($r = 0.56$ and $r = 0.48$, respectively, $p < 0.01$), whereas no statistically significant indicators were found among patients with isolated angina pectoris ($r = 0.22$ and $r = 0.24$, respectively). All of the above allows us to conclude that there is a direct relationship between the subjective assessment of the intensity of the pain syndrome and the degree of psycho-emotional disorders in patients with unstable angina.

All patients underwent biochemical blood tests. Table 1 shows that the indicators of biochemical studies between NS patients with PED and without it, as well as between a comparable group of patients with SS, are statistically insignificant, but it is necessary to emphasize the fact that among patients with PED, the level of SA was statistically significantly higher and amounted to $452.7 \pm 14.1 \mu\text{mol/l}$, while among patients without PED this figure was $348.2 \pm 11.9 \mu\text{mol/l}$.

Table 2

Indicators characterizing biochemical data in patients with UA and SA, $M \pm m$

Indicator	group 1 (UA), n=138		Patients with SA, n=32	p-value	
	Patients with UA and PED, n=86	Patients with UA, n=52		>0.5	P1
AST, U/l	0.62 ± 0.04	0.64 ± 0.04	0.61 ± 0.03	>0.5	P1

				>0.5	P2
				>0.5	P3
ALT, U/l	0.74± 0.05	0.72 ± 0.05	0.74± 0.06	>0.5	P1
				>0.5	P2
				>0.5	P3
Bilirubin: - total, µmol/l	19.7 ± 0.8	19.2± 0.8 [^]	21.4± 1.1	>0.5	P1
				<0.05	P2
				>0.2	P3
MC, µmol/l	452.7±14.1 ***	348.2±11.9	351.6±12.4 ^{^^^}	<0.001	P1
				<0.001	P2
				>0.5	P3
Urea	7.3 ± 0.4	6.8± 0.4	6.5 ± 0.4	>0.2	P1
				>0.1	P2
				>0.5	P3
Creatinine, mmol/l	90.9± 4.4	81.9± 3.1	85.4± 3.2	>0.5	P1
				>0.2	P2
				>0.5	P3
GFR, ml/min	117.18±5.9	107.85±3.9	99.6±7.3	>0.1	P1
				>0.2	P2
				>0.5	P3
Blood glucose , mmol/l	6.52± 0.31	5.85± 0.30	5.5± 0.28 [^]	>0.1	P1
				<0.05	P2
				>0.5	P3
H b , g/l	88.7± 4.8	89.3± 4.6	92.8± 3.1	>0.5	P1
				>0.5	P2
				>0.5	P3

Note: *[^]# - differences relative to data from the compared group are significant (* - P1 with less than <0.05, ** - P1<0.01, *** - P1<0.001, [^] - P2<0.05, ^{^^} - P2<0.01, ^{^^^} - P2<0.001, # - P3<0.05, ## - P3<0.01, ### - P3<0.001).

An analysis of the results of a lipid study showed that among patients with NS and PED, the indicators of total cholesterol and LDL cholesterol were statistically significantly higher (P <0.01) in comparison with patients with UA and without PED, as well as patients with SA (Table 3.). The coefficient of atherogenicity was statistically increased in all groups of patients, while the optimal value is considered when the UA is 2-3. But among patients with UA and PED, these values were significantly higher. In addition, the level of sUA also differed statistically among these groups, which shows the relationship of hyperuricemia with dyslipidemia, as well as the development and progression of PER (P <0.001).

Table 3
Parameters characterizing lipid metabolism and blood UA level in patients with coronary artery disease, M±m

Indicator	group 1, UA+ PED, n=86	2nd group, UA, n=52	3 group SA, n=32	p-value	
total cholesterol, mmol/l	6.7±0.3 **	5.6±0.2	6.2±0.3	<0.01	P1
				>0.2	P2
				>0.1	P3
HDL cholesterol, mmol/l	0.85± 0.07	0.95± 0.08	0.93± 0.09	>0.5	P1
				>0.5	P2
				>0.5	P3
LDL cholesterol, mmol/l	4.1±0.2	3.8±0.2	3.9±0.2	>0.2	P1
				>0.5	P2
				>0.5	P3
AC	6.9±0.3 ***	4.9±0.2 #	5.6±0.3 ^{^^}	<0.001	P1
				<0.01	P2
				<0.05	P3
UA µmol/l	452.7±14.1 ***	348.2±11.9	351.6±12.4 ^{^^^}	<0.001	P1
				<0.001	P2
				>0.5	P3

Note. *[^]#- Significantly compared with NS with and without TDS, as well as with stable angina (* -P1



<0.05, ** - P1 <0.01, *** - P1 <0.001, ^ - P2 <0.05, ^^ - P2 <0.01, ^^^ - P2 <0.001, # P3 <0.05, ## - P <0.01, ### - P <0.001). P 1, P 2, P 3 - significance of differences between 1g and 2g, 1g and 3g and 2g and 3g, respectively.

Thus, the obtained analyzes of the lipid profile and UA level among NS patients with PER, as well as UA patients without PED, showed that in UA patients with PED, the UA level is 104.5 $\mu\text{mol/l}$ higher than among patients without PED and by 101, 1 $\mu\text{mol/l}$ higher than among patients with SA. In addition, AC among UA patients with PED is 2 times higher than the norm. The presence of asymptomatic HU and impaired lipid profile may be one of the main factors in the occurrence of PED among patients with CCAD and contribute to an increase in UA attacks.

When conducting instrumental studies, such as ECG and ECHO CG, it was revealed that among patients with unstable angina pectoris and PED, T wave inversion and ST segment depression were observed statistically significantly (P<0.001), which indicates a more severe course of the underlying disease complicated by PED. ECHO CG did not reveal statistically significant differences between the groups, but no significant changes were noted in such indicators as LVEF, EDV and IVS sizes, which can be seen in Table 4.

Table 4

ECHO CG and ECG parameters in patients with NS, depending on the presence or absence of TDS

Indicator	1st group, NS+ PER n=86	2nd group, NS n=52	3 SS, n= 32	p-value	
LVEF (%)	49.5 \pm 1.9	50.6 \pm 1.8	54.4 \pm 2.3	>0.5 >0.1 >0.2	P1 P2 P3
EDV (cm)	5.9 \pm 0.2	5.6 \pm 0.3	5.8 \pm 0.2	>0.5 >0.5 >0.5	P1 P2 P3
ESV (cm)	5.3 \pm 0.2	5.5 \pm 0.2	5.3 \pm 0.3	>0.5 >0.5 >0.5	P1 P2 P3
PWLV (cm)	1.29 \pm 0.09	1.28 \pm 0.08	1.24 \pm 0.09	>0.5 >0.5 >0.5	P1 P2 P3
IVS (cm)	1.28 \pm 0.08	1.25 \pm 0.09	1.17 \pm 0.08	>0.5 >0.5 >0.5	P1 P2 P3
RV (cm)	2.75 \pm 0.18	2.75 \pm 0.17	2.73 \pm 0.19	>0.5 >0.5 >0.5	P1 P2 P3
LA (cm)	3.49 \pm 0.17	3.64 \pm 0.21	3.43 \pm 0.2 0	>0.5 >0.5 >0.5	P1 P2 P3
Aorta (cm)	3.07 \pm 0.13	3.07 \pm 0.15	3.09 \pm 0.12	>0.5 >0.5 >0.5	P1 P2 P3
ST segment depression (%)	70.4 \pm 2.9***	34.3 \pm 1.6	-	<0.001	P1
T wave inversion (%)	34.3 \pm 1.4*	30.1 \pm 1.3 #	14.4 \pm 0.6 ^^^	<0.001 <0.001 <0.05	P1 P2 P3

Note. *^#- Reliably compared with NS with and without TDS, as well as with stable angina (* -P1 <0.05, ** - P1 <0.01, *** - P1 <0.001, ^ - P2 <0.05, ^^ - P2 <0.01, ^^^ - P2 <0.001, # P3 <0.05, ## - P <0.01, ### - P <0.001).



Thus, the modern laboratory diagnostic methods presented in this work have confirmed the importance of the participation of psychosomatic tests, instrumental studies and biochemical mechanisms in the pathogenesis of the development of CAD destabilization, which in turn will contribute to an improved and personalized approach to the treatment and prevention of this pathological condition, and also improve prognosis and reduce cardiovascular complications and mortality.

Conclusions. Patients with UA in comorbidity with a psycho-emotional disorder are characterized by frequent hospitalizations due to cardiovascular events and low survival. In patients with chronic coronary heart disease, a survey according to the MPQ sensory scale revealed more severe pain syndromes among patients with unstable angina and PED. In patients with NS in comorbidity with a psycho-emotional disorder, it is characterized by a longer duration of the disease, frequent anginal attacks, ineffectiveness of the therapy, as well as a lower quality of life and rapid progression of cardiovascular complications, which in turn affects the length of stay in the hospital and their repeated hospitalizations.

References / Список литературы / Iqtiboslar

1. A. Abdi-Ali, A. Shaheen, D. Southern, et al. Relation between family history of premature coronary artery disease and the risk of death in patients with coronary artery disease *Am J Cardiol*, 117 (3) (2016), pp. 353-358
2. A. Levi, C. Chezar-Azerrad, D. Hasdai, et al. Impact of self-reported family history of premature cardiovascular disease on the outcomes of patients hospitalized for acute coronary syndrome (from the acute coronary syndrome Israel survey [ACSIS] 2000 to 2013) *Am J Cardiol*, 122 (6) (2018), pp. 917-921
3. A. Singh, A. Gupta, B.L. Collins, et al. Familial hypercholesterolemia among young adults with myocardial infarction *J Am Coll Cardiol*, 73 (19) (2019), pp. 2439-2450
4. A.B. Jørgensen, R. Frikke-Schmidt, B.G. Nordestgaard, A. Tybjærg-Hansen Loss-of-function mutations in APOC3 and risk of ischemic vascular disease *N Engl J Med*, 371 (1) (2014), pp. 32-41
5. A.V. Khera, S. Kathiresan Genetics of coronary artery disease: discovery, biology and clinical translation *Nat Rev Genet*, 18 (6) (2017), pp. 331-344
6. C.A. Emdin, A.V. Khera, D. Klarin, et al. Phenotypic consequences of a genetic predisposition to enhanced nitric oxide signaling *Circulation*, 137 (3) (2018), pp. 222-232
7. C.B. Cole, M. Nikpay, A.F. Stewart, R. McPherson
8. F.B. Ortega, C.J. Lavie, S.N. Blair Obesity and cardiovascular disease *Circ Res*, 118 (11) (2016), pp. 1752-1770
9. G.B. Ehret, T. Ferreira, D.I. Chasman, et al. The genetics of blood pressure regulation and its target organs from association studies in 342,415 individuals *Nat Genet*, 48 (10) (2016), pp. 1171-1184
10. H. Pang, Z. Zong, L. Hao, Q. Cao ABO blood group influences risk of venous thromboembolism and myocardial infarction *J Thromb Thrombolysis*, 50 (2) (2020), pp. 430-438
11. H. Poorzand, K. Tsarouhas, S.A. Hozhabrossadati, et al. Risk factors of premature coronary artery disease in Iran: a systematic review and meta-analysis
12. H. Schunkert Family or SNPs: what counts for hereditary risk of coronary artery disease *Eur Heart J*, 37 (6) (2016), pp. 568-571
13. H. Tada, O. Melander, J.Z. Louie, et al. Risk prediction by genetic risk scores for coronary heart disease is independent of self-reported family history
14. H. Wang, Z. Liu, J. Shao, et al. Immune and inflammation in acute coronary syndrome: molecular mechanisms and therapeutic implications *J Immunol Res*, 2020 (2020), p. 4904217
15. I. Brønne, M. Kleinecke, B. Reiz, et al. Systematic analysis of variants related to familial hypercholesterolemia in families with premature myocardial infarction *Eur J Hum Genet*, 24 (2) (2016), pp. 191-197
16. J.P. Collet, M. Zeitouni, N. Procopi, et al. Long-term evolution of premature coronary artery disease *J Am Coll Cardiol*, 74 (15) (2019), pp. 1868-1878
17. L. Chen, H. Qian, Z. Luo, et al. PHACTR1 gene polymorphism with the risk of coronary artery disease in Chinese Han population *Postgrad Med J*, 95 (1120) (2019), pp. 67-71



18. M. Nikpay, A. Goel, H.H. Won, et al. A comprehensive 1,000 Genomes-based genome-wide association meta-analysis of coronary artery disease *Nat Genet*, 47 (10) (2015), pp. 1121-1130
19. M.S. Sabatine, R.P. Giugliano, A.C. Keech, et al. Evolocumab and clinical outcomes in patients with cardiovascular disease *N Engl J Med*, 376 (18) (2017), pp. 1713-1722
20. Myocardial Infarction Genetics and CARDIoGRAM Exome Consortia Investigators, N.O. Stitziel, K.E. Stirrups, et al. Coding variation in ANGPTL4, LPL, and SVEP1 and the risk of coronary disease *N Engl J Med*, 374 (12) (2016), pp. 1134-1144
21. Myocardial Infarction Genetics Consortium Investigators, N.O. Stitziel, H.H. Won, et al. Inactivating mutations in NPC1L1 and protection from coronary heart disease *N Engl J Med*, 371 (22) (2014), pp. 2072-2082
22. O. Bilen, Y. Pokharel, C.M. Ballantyne Genetic testing in hyperlipidemia *Cardiol Clin*, 33 (2) (2015), pp. 267-275
23. P. Nioi, A. Sigurdsson, G. Thorleifsson, et al. Variant ASGR1 associated with a reduced risk of coronary artery disease *N Engl J Med*, 374 (22) (2016), pp. 2131-2141
24. P. van der Harst, N. Verweij Identification of 64 novel genetic loci provides an expanded view on the genetic architecture of coronary artery disease
25. P.M. Ridker From CANTOS to CIRT to COLCOT to clinic: will all atherosclerosis patients soon Be treated with combination lipid-lowering and inflammation-inhibiting agents *Circulation*, 141 (10) (2020), pp. 787-789
- P.M. Ridker, B.M. Everett, T. Thuren, et al. Antiinflammatory therapy with canakinumab for atherosclerotic disease
26. R. Do, N.O. Stitziel, H.H. Won, et al.
27. R. Posadas-Sánchez, N. Pérez-Hernández, J. Angeles-Martínez, et al.
28. R. Roberts Genetic risk stratification: tipping point for global primary prevention of coronary artery disease *Circulation*, 137 (24) (2018), pp. 2554-2556
29. R.M. Gupta, J. Hadaya, A. Trehan, et al. A genetic variant associated with five vascular diseases is a distal regulator of endothelin-1 gene expression
30. S. Sandler, L. Alfino, M. Saleem The importance of preventative medicine in conjunction with modern day genetic studies *Genes Dis*, 5 (2) (2018), pp. 107-111
31. S. Thériault, R. Lali, M. Chong, J.L. Velianou, M.K. Natarajan, G. Paré Polygenic contribution in individuals with early-onset coronary artery disease
32. S.D. Kumbhalkar, V.V. Bisne Clinical and angiographic profile of young patients with ischemic heart disease: a central India study *J Clin Prev Cardiol*, 8 (2019), pp. 6-12
33. T. Li, L. Ding, Y. Wang, O. Yang, S. Wang, J. Kong Genetic deficiency of Phactr1 promotes atherosclerosis development via facilitating M1 macrophage polarization and foam cell formation *Clin Sci (Lond)*, 134 (17) (2020), pp. 2353-2368
34. T.L. Assimes, D.M. Herrington Genetic risk scores in premature coronary artery disease: still only one piece of the prevention puzzle *Circ Genom Precis Med*, 11 (1) (2018), Article e002006
35. T.L. Assimes, R. Roberts Genetics: implications for prevention and management of coronary artery disease *J Am Coll Cardiol*, 68 (25) (2016), pp. 2797-2818
36. Y. Abramowitz, A. Roth, G. Keren, et al. Whole-exome sequencing in individuals with multiple cardiovascular risk factors and normal coronary arteries *Coron Artery Dis*, 27 (4) (2016), pp. 257-266
37. Y. Okuyama, N. Hirawa, M. Fujita, et al. The effects of anti-hypertensive drugs and the mechanism of hypertension in vascular smooth muscle cell-specific ATP2B1 knockout mice *Hypertens Res*, 41 (2) (2018), pp. 80-87