МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ УЗБЕКИСТАН

ТАШКЕНТСКИЙ ГОСУДАРСТВЕННЫЙ СТОМАТОЛОГИЧЕСКИЙ ИНСТИТУТ

САМАРКАНДСКИЙ ГОСУДАРСТВЕННЫЙ МЕДИЦИНСКИЙ УНИВЕРСИТЕТ

VI РЕСПУБЛИКАНСКАЯ НАУЧНО-ПРАКТИЧЕСКАЯ КОНФЕРЕНЦИЯ
«СОВРЕМЕННЫЕ ДОСТИЖЕНИЯ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ОХРАНЫ ЗДОРОВЬЯ НАСЕЛЕНИЯ»

ПОСВЯЩЕННАЯ

ВСЕМИРНОМУ ДНЮ ЗДОРОВЬЯ

ТАШКЕНТ

STUDY OF THE CHARACTERISTICS OF PHYSICAL ACTIVITY IN PATIENTS WITH VENTRICULAR RHYTHM DISORDERS DEPENDING ON THE FUNCTIONAL CLASS OF ARRHYTHMIA

Ismoilov U.I., Nurillaeva N.M., Shukurdjanova S.M.
Tashkent Medical Academy, Tashkent, Uzbekistan

Relevance. Accordingly, the impact of CVD on the level of health of the world's population makes today the whole scientific community to search and find new ways to solve this problem. According to the statistics of the National Heart, Lung and Blood Institute (National Heart, Lung and Blood Institute), every year almost 815 thousand Americans die from CVD, 250 thousand people die from stroke. According to calculations of the American Heart Association, 420 billion dollars are spent annually from the U.S. economy for the treatment of these diseases. In Europe, more than 4.3 million deaths (48% of all deaths) and more than 2.0 million deaths are attributed to diseases of the circulatory system (BSC), which are registered in 27 countries of the European Union (42%) . This represents more than 800,000 people over 63 years of age who die each year from CVDs, including about 230,000 of them in developed European countries. One in five Europeans has a CVD as an outcome of death, with 15% of women and 16% of men dying each year [2].

Analysis shows that 53% of deaths among the population of Uzbekistan aged 30-70 years are related to CVD. Over the last five years, their morbidity even among young people has increased by 20%. In general, these diseases are diagnosed in about 4 million people, which is 12% of the total population.

The main direction in preventing the development of diseases and complications of CVD is timely identification and correction of risk factors (FR). The significance of known FRs, such as family history, age, male gender, smoking, overweight, dyslipidemia (DLD), arterial hypertension (AH), type 2 diabetes mellitus (DM), has been convincingly proved, but in the absence of these factors, acute myocardial infarction (AMI) and angina may develop. Therefore, to improve the prognosis of CHD incidence and determine indications for active primary prevention, it is necessary to explore additional criteria that allow for a more accurate assessment of a patient's individual risk. Decreased physical activity (PA) of the population is considered as one of the risk factors for CVD.

Physical activity and physical training contribute to the general health of the organism and are a factor in the treatment and prevention of CVDs. The main actions to increase FA should be aimed at its promotion, support and popularization. Medical and physical education specialists should more actively use physical exercises in work with citizens with disabilities [6].

Purpose of the study. By studying the initial parameters of patients with ventricular extrasystoles, to determine the program of physical activity depending on the class according to Laun taking into account the period of rhythm disturbances.

Materials and methods. The objects of the clinical study were 67 persons who voluntarily signed an informational consent for inclusion in the research.

Of them 63 patients with HES, both sexes, aged from 29 to 50 years (average 35,1±2,6) were included in the study. The group of healthy individuals consisted of 30 individuals, aged 27 to 50 years (mean 37.6±6.7), free of SWD.

The patients were divided into 3 groups: Group 1 - 21 patients with class 1 VES according to the Laun classification; Group 2 - 21 patients with class 2 VES according to the Laun classification; Group 3 - 21 patients with class 3 VES according to the Laun classification.

The main inclusion criteria were the presence of an established diagnosis of patients with WPPP. The B. Lown-Wolf classification was used to determine the functional class of LES. Lown-Wolf in modification of M. Ryan (1975) with daily ECG monitoring by Holter (Table 2.1). The diagnosis of WPPP was made on the basis of complaints, clinical picture, anamnesis, physical examination, laboratory (lipid spectrum, coagulogram) and instrumental methods (VEM and daily Holter monitoring) in accordance with the recommendations of ESH/ESC (2019) [12, p. 425] and RCO/WHO (2017) [4, p. 7-122].

The study excluded patients with ACS, AMI or STEMI in the previous 6 months; hypotension (BP < 100/60 mmHg); CHF stage II B-III and NYHA class III-IV; resting HR before treatment <60 beats/min; atrial fibrillation and life-threatening rhythm disturbances.); CHF stage II B-III and NYHA class III-IV; resting HR before treatment <60 beats per minute; atrial fibrillation and life-threatening cardiac rhythm and conduction disorders, symptomatic AH; cardiomyopathies; heart defects; COPD; type 1 and type 2 diabetes mellitus; thyroid disorders; severe liver and kidney dysfunction; renal artery stenosis; oncologic diseases; patients with acute or exacerbation of chronic infectious, inflammatory and autoimmune diseases.

Daily Holter monitoring and bicycle ergometry were performed in all patients for diagnosis and determination of tolerance to physical activity.

Statistical processing of the obtained results was carried out using Vicrosoft Excel spreadsheets and STATISTICA 6.0, SAS 6.3 statistical programs package. An electronic database was created using Microsoft Office Excel 2007.

Results. In the study for determination of tolerance to physical loads 63 patients divided into 3 groups of WES according to Laun's classification were included. 22 practically healthy people were selected for the comparison group.

Table 1

Indices of VEM duration and exercise tolerance

Indicator	healthy group	1- group	2- group	3- group
VEM stop time (sec)	443,2	384,3	358,1	298,7
VEM stop time (W)	105,7	95,2	88,1	81
Tolerance to physical activity (high)	10	4	1	1

Tolerance to physical activity (average)	7	8	8	2
Tolerance to physical activity (low)	5	12	11	17

Table 1 shows that compared to the comparison group all three groups of patients have statistically significantly low duration of VEM performance and low tolerance to physical activity. The mean duration of VEM performance in the control group was 443.2 seconds (average 105W), while the mean duration in the first group was 384.3 seconds (95.2W, 13.3% lower), the second group was 85.1 seconds (19.2% lower) than the control group (average 358.1 seconds (88.1W)), and the lowest was in the third group with an average of 298.7 seconds (average 81W).

In the control group it was determined that, out of 22 subjects, 10 people had a high tolerance to physical activity which is 45.5%, medium tolerance to FN was shown by 7 subjects (31.8%), while low tolerance was only 22.7% (5 subjects)

Table 2

Physical activity tolerance indicators (%)

Indicator	**healthy group**	**1- group**	**2- group**	**3- group**
	%	**%**	**%**	**%**
Tolerance to physical activity (high)	10 (45,5%)	4 (19%)	1 (4,8%)	1 (4,8%)
Tolerance to physical activity (average)	7 (31,8%)	9 (42,9%)	9 (42,9%)	3 (14%)
Tolerance to physical activity (low)	5 (22,7%)	8 (38,1,%)	11 (52,4%)	17 (81,5%)

In the first group of patients with ventricular rhythm disturbances was insignificantly less than in the control group. High tolerance to VF was determined in 4 patients (18.2%). Average tolerance to FN was detected in 36.4% of patients (8 patients), and more than half of the patients had low tolerance, 12 patients (54.5%).

In the second and third group the indices had a decreased trend. In both groups patients with high tolerance to FN were only 4.5% (1 researched patient), 8 (36.4%) and 2 (9%) patients respectively had medium tolerance to FN. Patients with low tolerance to FN attracted much attention. In the second group, 11 patients (50%) were identified, and in the third group there were 77.3% of the study population (17 patients), which shows a significant decrease in the fulfillment of physical activity.

Conclusion and Discussion. Thus, "FA is a natural medicine". FA should be considered as a part of the medical toolkit, since the methods increasing it are quite effective in the prevention and treatment of CVD. Programs aimed at increasing FA in patients with ventricular rhythm disorders should be adapted to the capabilities of their

body and tailored to the individual characteristics of each person, such as specific risks, physical health limitations or exercise capacity [4].

Interventions to reduce the prevalence of insufficient FA are complex and are implemented on a multisectoral basis with the participation of all stakeholders at different levels of society.

In the course of exercise testing (VEM test) in all 3 groups of patients with WES, a decrease in exercise tolerance was proven (1-group 57.1%, 2-group 52.4% and 3-group 81% of patients), which is a direct evidence of decreased quality of life in these patients. And based on the results of the VEM test, a physical activity program was designed to improve the physical condition of the patient, improve the effectiveness of medications and prolong the hospitalization of the patient in the hospital.

Dosed walking is the most accessible and habitual method of training to increase tolerance to physical exertion of CVS.

Dosed walking is the most common method of physical rehabilitation and secondary prevention and is the preferred method of home-based PT, even if the patient is currently undergoing supervised PT. Dosed walking is a very safe form of motor activity in terms of risk of SSO as well as orthopaedic risk (if the route is chosen correctly). Due to the obvious simplicity of dosed walking, it can be practiced by the majority of patients with CHD, including those who have undergone MI, as well as patients with other pathologies [10].

Dosed walking does not require special skills, equipment, or facilities. Adherence to dosed walking is usually high. In winter, metered walking can be practiced at air temperatures as low as -20°C, and in windy conditions as low as -15°C. The best time is from 11 to 13 h and from 17 to 19 h. Clothing and footwear should be comfortable, loose and suitable for the ambient temperature. When exercising in hot weather, you should drink enough fluids, reduce the intensity of exercise, wear a minimum of clothing. Before walking it is necessary to rest for 5-7 min, determine the initial value of HR [11].

Conclusions. According to the results of our study it was proved that all patients irrespective of the class of ventricular rhythm disorders according to Laun compared to the control group have low quality of life and most of them have low tolerance to physical activity. it is especially noticeable in patients with class 3 ventricular rhythm disorders (17 patients), which is 80,9% of patients in this group. And in the first and second groups, patients with low tolerance to physical activity covers half of all patients, 11 (50%) and 12 (57,1%) patients respectively.

Since today physical activity is not included in the algorithm of treatment of patients with ventricular rhythm disturbances and the lack of reliable information about the effect of dosed walking on the course of arrhythmia, the program developed by us can serve to increase the tolerance to physical activity in patients with ventricular rhythm disturbances can have a significant impact on prolonging the duration of hospitalization of patients, strengthening the effects of drug therapy, but in turn to reduce the overall and cardiovascular mortality.

References:

1. Global atlas on cardiovascular disease prevention and control. – Geneva: World Health Organization, 2011. – 212 p

2. https://www.who.int/ru/news-room/fact-sheets/detail/physical-activity

3. https://www.who.int/ru/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)

4. Амосов Н. М., Бендет Я. А. Физическая активность и сердце. Киев : Здоровья, 1989. 230 с.

5. Бойцов С. А. Механизмы снижения смертности от ишемической болезни сердца в разных странах мира //Профилактическая медицина. – 2013. – №16(5). – С. 9-19.

6. Баевский Р. М. Прогнозирование состояний на грани нормы и патологии. М. : Медицина, 1979. 298 с.

7. Eriksen C. U., Rotar O., Toft U., Jorgensen T. What is the effectiveness of systematic population-level screening programmes for reducing the burden of cardiovascular diseases? – Copenhagen: WHO Regional Office for Europe. – 2021. – 107 p.

8. Калинина А. М., Чазова Л. В., Павлова Л. И. Влияние многофакторной профилактики ишемической болезни сердца на прогноз жизни // Кардиология, 2009, с-245.

9. Матвеев Л. П. Теория и методика физической культуры (общие основы теории и методики физического воспитания; теоретико-методические аспекты спорта и профессиональноприкладных форм физической культуры) : учебник для ин-тов физ. культуры. М. : Физкультура и спорт, 1991. 43 с.

10. Мильнер Е. Г. Формула жизни: медико-биологические основы оздоровительной физической культуры. М. : Физкультура и спорт, 1991. 112 с.

11. Николаев А. А. Двигательная активность и здоровье современного человека: Учебное пособие для преподавателей и студентов высших учебных заведений физической культуры. Смоленск : СГИФК, СГУ, 2005. 93 с.

12. Смертность от сердечно-сосудистых заболеваний в Минске последние три года снижается // Новости Беларуси. Белорусское Телеграфное Агенство [Электронный ресурс]. 2017. Режим доступа: http://www.belta.by/regions/view/smertnost-ot-serdechno-sosudistyh-zabolevanijv-minske-poslednie-tri-goda-snizhaetsja-271878-2017/. Дата доступа: 15.04.2018

13. Макаров Л.М. Холтеровское мониторирование (3-е издание).— М.: Медпрактика-М», 2008. — 456 с.

14. Juul-Moller S., Hedbland B., Janzon L. Johansson B.W. Increased occurrence of arrhythmias in men with ischemic type ST-segment depression during long-term ECG re-cording. Prognostic impact on ischemic heart diseases: results from the prospective population study «Men born in 1914», Malmo, Sweden // J. Intern. Med. — 1991. — Vol. 230, № 2. — P. 143-149.

15. Бокерия Л.А, Голухова Е.З., Адамян М.Г. и др. Клинико-функциональные особенности желудочковых аритмий у больных ишемической болезнью сердца. Кардиология. 1998; 10: 17–24.

СОДЕРЖАНИЕ

Общественное здоровье и управление здравоохранением