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STUDY OF SILENT MYOCARDIAL ISCHEMIA IN WOMEN IN POSTMENOPAUSAL PERIOD

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Abstract:

Coronary heart disease (CHD) is one of the pressing socio-medical problems of our time. The leading position among the causes of deaths (up to 51%) is taken by ischemic heart disease, which etiopathogenetically is predominantly caused by atherosclerotic lesions of the coronary arteries (Section of atherosclerosis RSSC, 2004). Almost 45.4% of patients die from acute myocardial infarction (AMI), including recurrent ones [1]. In the current situation, the fight against cardiovascular diseases (CVD), according to E.I. Chazova, it's not just a big phrase – it's a matter of national security [2].

CVDs are the leading cause of death in women in industrialized countries. Cardiovascular diseases (CVD) account for 55% of deaths in women and 43% in men [3]. According to the American Heart Association, 32 million women in the United States suffer from coronary artery disease (compared to 30 million men). For various reasons, the mortality rate in women is higher than in men. In the United States, more than 0.5 million women die annually from coronary heart disease. At the same time, in the countries of Western Europe, the USA, Canada, and Australia, over the past decades, there has been a steady trend towards a decrease in mortality from IHD, which sharply differs from the situation in Russia, where, on the contrary, there has been an increase in this indicator. [3].

Keywords:

Coronary heart disease (CHD), Silent myocardial ischemia (SMI), postmenopausal period, menopausal syndrome (MS).

Introduction

The development of IHD in women, risk factors, clinical course, diagnosis and structure of complications has its own characteristics: the influence of risk factors for IHD is more aggressive on women than on men, later manifestation of IHD in the presence of the physiological course of menopause, a significant increase in cases of IHD and acute myocardial infarction with early the onset of menopause or after oophorectomy, a more severe course of

IHD in prognostic terms (significantly more women die from the first MI or during the first year after it), frequent episodes of silent myocardial ischemia, which causes late diagnosis of IHD, MI, a higher percentage of negative results during CAG, increased prevalence among women with microvascular forms of coronary blood flow disorders. [5].

Menopause is a complex physiological process resulting from decreased production and secretion of ovarian hormones, with a mean age of onset of 51 years in North America [59]. With age, estradiol levels decline until menopause, when they are similar to men (5–20 pg/ml) [60]. Estradiol has many systemic effects, including: disruption of the coagulation, fibrinolytic, lipid and antioxidant systems, as well as a local vasodilator effect on the arterial wall [10,11].

Purpose of the study:

To study the features of the course of painless myocardial ischemia in postmenopausal women.

Material and Research Methods

The study included 54 postmenopausal women aged 50 to 65 years (mean age 58.7±8.4 years). The patients were divided into 2 groups: the main group consisted of 25 patients with coronary artery disease, stable angina FC II (or III) with episodes of painless myocardial ischemia, the control group was represented by 29 patients who also had coronary artery disease, stable angina FC II (or III), where there were no episodes of silent myocardial ischemia. For all those examined, the phase of the menopausal period was determined: menopause was established retrospectively 1 year after the last independent menstruation, and the period after the complete cessation of menstrual function was considered postmenopausal. The average age at menopause was 51±0.8 years, the duration of the postmenopausal period was 7.8±3.5 years. Signs of menopausal syndrome of varying severity were present in 88% of women in group 1 and 65.5% of women in group 2. Work with each patient included: questioning (complaints, anamnesis), physical examination (BMI, as well as examination of the cardiovascular, respiratory, digestive, urinary and endocrine systems). Laboratory and instrumental methods of examination: general blood and urine analysis, biochemical blood analysis, ECG, echocardiographic examination of the heart, HMECG (Holter monitoring of ECG), questionnaires using questionnaires to determine the menopausal index Kupperman.

Research Results

When questioning women in the menopausal period, such risk factors for the development of cardiovascular diseases as family history, weight gain, physical inactivity, and stress were analyzed.

In women with episodes of silent myocardial ischemia, excess body weight (58%), arterial hypertension (76%) and increased blood glucose (38%) prevailed. In women without episodes of silent myocardial ischemia, arterial hypertension was (58%), excess body weight (45%), increased blood glucose (18%).

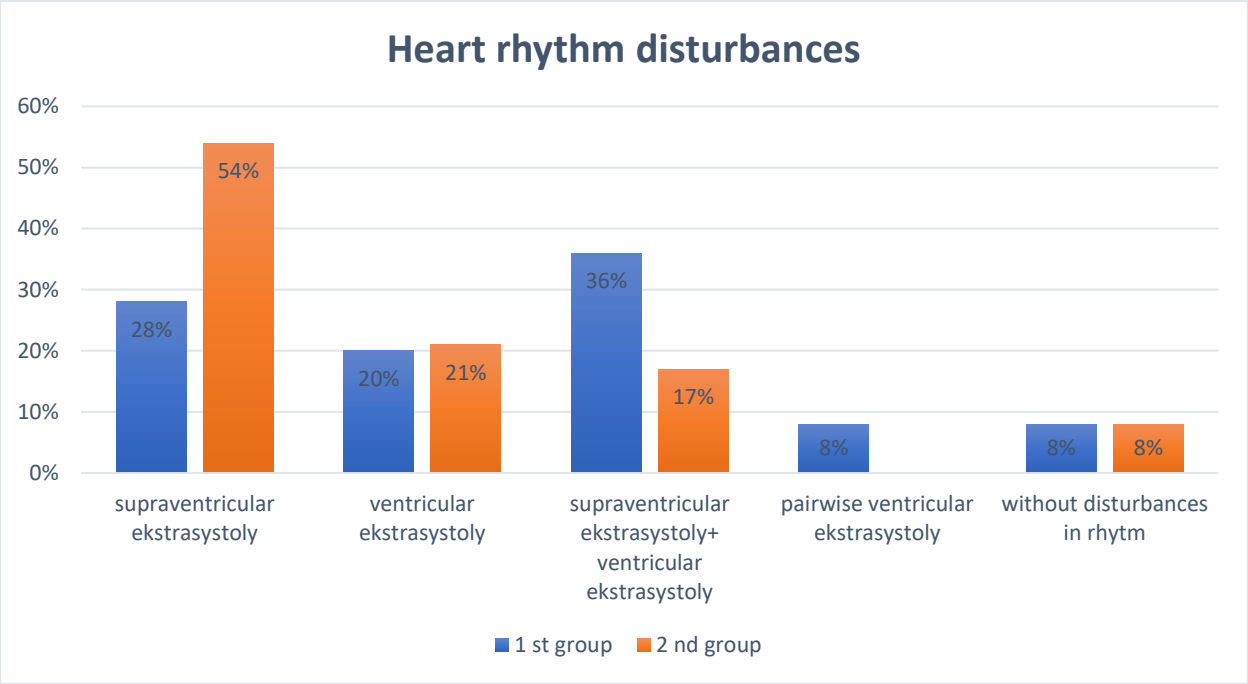
It was found that all women presented a large number of complaints when they first visited the clinic. For a detailed assessment of the various manifestations of menopausal syndrome, the Kupperman menopausal index, modified by Uvarova,
was used.

Average modified menopausal index score in women in different groups

Type of violations	Modified menopausal index	
	Women with epispdes of typical ischemic pain and silent myocardial ischemia n=25	Women with epispdes of typical ischemic pain only n=29
Neurovegetative	29,5±2,4	21,78±2,4*
Exchange-endocrine	16,18±2,1	6,87±0,5*
Psycho-emotional	12,76±1,8	9,41±1,6*
Overall MMI score	63,28±4,6	45,44±3,8*

Note: * - p <0.05 compared with group 1

The assessment results showed that the vast majority of postmenopausal women had symptoms of menopausal syndrome in women in the first group (88%), and in the second group this figure was 65.5% (p <0.05).
The results of the analysis of the 24-hour HM ECG revealed that in the first group of patients, painful episodes of myocardial ischemia were combined with non-painful ones. Differences in the average and maximum depth of ischemic depression of the ST segment were not significant, but these indicators were more pronounced in pain episodes. For patients in group 1, the average depth of ischemic depression was 1.41 ± 0.08 mm; in patients without painless myocardial ischemia, it was 1.42 ± 0.31 mV. The average number of ischemic episodes per day was 15.6±0.5 and 8.4±0.3 for groups 1 and 2, respectively. Moreover, the average daily duration of ischemic episodes was 34.4 ± 11.9 minutes in group 1 and 9.0 ± 2.8 minutes in group 2. No number of episodes of S-T elevation were observed.
When analyzing heart rhythm disturbances in the first group, ventricular extrasystole and the same arrhythmia with supraventricular extrasystole were observed 1.2 and 1.5 times higher than in the second group, respectively.



Conclusion

A study of the symptoms of menopausal syndrome, assessed by the Kupperman menopausal index as modified by Uvarova, showed that neurovegetative disorders in the form of hot flashes, sweating, headaches and sleep disturbances and metabolic endocrine disorders were most pronounced in women with stable angina pectoris with typical pain syndrome and episodes of silent ischemia myocardium.

Studies have shown that in the menopausal period, detection of silent myocardial ischemia is of great importance for assessing the prognosis of the disease and choosing adequate tactics for managing the patient.

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