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RISK FACTORS FOR SUDDEN DEATH AND PATHOMORFOLOGICAL CHANGES IN SUDDEN DEATH.

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ANNOTATION
Risk factors for sudden death are diverse. These include high-grade ventricular extrasystole in patients with AMI, paroxysmal ventricular tachycardia, atrioventricular block and increased QT. As for risk factors, today it is possible to predict VCS with a certain degree of probability. Moreover, a correct forecast is possible by taking into account at least three factors - the degree of coronary insufficiency, a decrease in myocardial contractility, and rhythm disturbances.
KEYWORDS
Ischemic heart disease, angina pectoris Prinzmetal , teleradiography , fibrillation ventricular , tachycardia , fibrillation , sinus bradycardia , AV block .

Risk factors for sudden death are diverse. These include high-grade ventricular extrasystole in patients with AMI, paroxysmal ventricular tachycardia, atrioventricular block and increased QT. New-onset Prinzmetal angina , the most acute stage of myocardial infarction (in 70 percent of cases, VF falls in the first 6 hours of the disease with a peak in the first 30 minutes). Rhythm disturbances: rigid sinus (P-P intervals less than 0.05 s), frequent (more than 6 per minute), group, polytopic , allometric ventricular extrasystoles, prolongation of the Q-T interval with early P/T-type extrasystoles and episodes of polymorphic ventricular tachycardia , ventricular tachycardia, especially emanating from the left ventricle, alternating and bidirectional, WPW syndrome with paroxysms of flutter and high-frequency atrial fibrillation with aberrant QRS complexes, sinus bradycardia, AV block, damage to the interventricular septum (especially in combination with damage to the anterior wall of the left ventricle) , administration of cardiac glycosides in the acute phase of MI, thrombolytics (reperfusion syndrome), alcohol intoxication, episodes of short-term loss of consciousness. To identify people at high risk of VCS and carry out preventive measures for them, it is advisable to classify all factors associated with the development of sudden cardiac arrest into a number of groups. The first group includes factors that contribute to the occurrence of diseases leading to VCS. Due to the fact that the main cause of VCS is ischemic heart disease, risk factors (RFs) for this disease, such as arterial hypertension (AH), smoking, hypercholesterolemia , overweight (BMI), low physical activity (LPA) can be considered risk factors for sudden death . However, this connection is not direct, but indirect through the underlying disease. Risk factors of a clinical nature among patients with coronary artery disease include: acute myocardial infarction in the first 2 hours, unstable angina (progressive, first-time angina), post-infarction large-focal cardiosclerosis, coronary heart disease with various rhythm and conduction disorders (high-grade extrasystolia , paroxysmal ventricular tachycardia, atrioventricular blockade 2-3 degrees, etc.). But even in clinical forms of IHD with a high risk of VCS, the latter does not develop in all patients. According to data, every second of the patients who have had an MI dies suddenly in the long term. Therefore, clinical forms alone are not a sufficient basis for identifying individuals at high risk of VCS. In addition to clinical analysis, the assessment of the functional state of the heart according to a set of instrumental methods is of great importance: teleroentgenocardiography , echocardiography, polycardiography , etc. Thus, the volume of the heart, determined radiometrically and exceeding 1000 cm3 (N.A. Mazur, 1986), increases

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the risk VKS. According to the data, from a set of other indicators of cardiac functioning, the most significant factors as RF of VCS in patients with hypertension and coronary artery disease are: the asynchronous contraction phase is more than 6 ms , the voltage period is more than 10 ms , the mechanical coefficient is less than 2.5, changes in BCG grade 2-4, decrease the speed of propagation of pulse wave velocity (PWV) in arteries of the muscular type, a decrease in the ratio of PWV in the arteries of the muscular and elastic type to 1.0. Among the functional indicators of the heart as a risk factor, electrocardiological characteristics occupy a special place. In addition to risk factors, to prevent VCS, it is also necessary to know the factors that directly cause or provoke sudden death. These include: psycho-emotional stress, inadequate physical activity, alcohol consumption, heavy food intake, cold irritant. VCS can occur during sleep or during sexual intercourse. It is likely that unfavorable meteorological conditions can contribute to the occurrence of VCS. And another important aspect of identifying high-risk individuals is identifying a group of precursors of VCS. These include high-grade ventricular extrasystole in patients with AMI, paroxysmal ventricular tachycardia, atrioventricular block and increased QT. As for risk factors, today it is possible to predict VCS with a certain degree of probability. Moreover, a correct forecast is possible by taking into account at least three factors - the degree of coronary insufficiency, a decrease in myocardial contractility, and rhythm disturbances. In addition, we identified increased cholesterol and LDL as a separate risk factor. Vikhter A.M., Matova E.E. et al. believe that in people with high levels of cholesterol in the blood, multiple stenoses of the coronary arteries occur more often, and isolated stenoses occur less frequently than with low levels of cholesterol in the blood. The degree of narrowing of the lumen of the coronary arteries is also more pronounced with hypercholesterolemia . In cases where the level of total cholesterol in plasma remains normal, an increase in b-lipoproteins becomes important prognostically .

Pathomorphological changes in sudden death.

A decrease in the lumen of the vessel by 50 percent or more is accepted as a criterion for stenotic lesions. Most often, stenoses are localized in the anterior descending branch of the left coronary artery, somewhat less often in the right coronary artery and in the circumflex branch of the left coronary artery. Atherosclerotic stenosis of the main trunk of the left artery and the ostium of the coronary artery is rarely the only site of significant obstruction in sudden death. Roberts and Buya L.M. found that the atherosclerotic process affects only extramural vessels. In the arteries extending perpendicular to the endocardium, they did not find changes that could be attributed to atherosclerosis. A number of other studies have noted that pathological changes in the intramyocardial arteries as the main vascular lesion in sudden death are rare and virtually never exist in isolation from atherosclerotic lesions of the epicardial coronary arteries. The absence of acute changes in the main branches of the coronary arteries in most cases of sudden death indicates the presence of other causes causing the appearance of electrophysiological abnormalities that ultimately lead to ventricular fibrillation. With this formulation of the question, it should be considered legitimate to assume that fatal cardiac arrhythmias in such cases may be the result of relatively small foci of ischemia due to embolization of small vessels or the formation of small blood clots in them. The source of small emboli can be an ulcerated plaque in the aorta or large trunks of the coronary arteries. The sudden onset of ventricular fibrillation is difficult to explain solely by long-standing damage to the coronary arteries. The absence of fresh coronary artery thrombosis requires a search for other causes that explain the immediate cause of sudden death. In this regard, several hypotheses can be put forward. One

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of them suggests that a possible cause is acute myocardial ischemia, which occurs due to an increase in myocardial oxygen demand during physical, psychoemotional or other nature (alcohol intake) stress, accompanied by a sharp release of catecholamines, and which cannot be stopped by an adequate increase in coronary blood pressure. blood flow due to significant narrowing of the artery lumen. The second hypothesis associates sudden death with a decrease in coronary blood flow due to a significant decrease in blood pressure levels, which can occur during rest or sleep. The discrepancy between the need for oxygen and the resulting spasm of the coronary artery. Indirect evidence indicates that all of these factors can play a fatal role in different groups of patients.

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