

**Neurocardiogenic fainting:
causes, methods of diagnosis, treatment, prevention**

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"There are three necessary habits which, under all conditions, will make available any thing that man can imagine: the habit of work, the habit of health, the habit of learning. If you have these habits and you are loved by a woman who also has these habits, you will be happy now and always, she will be happy too."

Albert Hubbard

Neurocardiogenic fainting is a collective term used to characterize a whole group of clinical symptoms that are manifested by bouts of loss of consciousness and are associated with the reflex action of the autonomic system on the regulation of vascular tone and heart rate.

The mechanisms of development of such conditions have not yet been clearly studied. The large number of localizations of afferent nerve fiber receptors determines the variety of clinical situations characterized by neuroreflective syncopal States.

More often there are fainting associated with cardiovascular disease, including functional disorders of vascular tone regulation. According to various data, vasovagal fainting accounts for 37% to 58% of the total number of syncopal conditions, and in 18-42% of these patients they are due to cardiac causes. Vasovagal syncopal conditions are more common in young and middle-aged people, usually without signs of disease of the cardiovascular and nervous systems. In most of the observed patients with intensive growth and puberty, women have a relationship with the menstrual cycle and pregnancy. The greatest number of attacks occur between the ages of 15 and 23.

There are other causes of loss of consciousness, such as: hypoglycemic condition, anemia, epilepsy, hysteria. According to the Framingham study, such conditions are not accompanied by an increased risk of BCC, at the same time, frequent fainting reduces the quality of life of patients, provoke the development of feelings of fear and uncertainty.

In addition, persons of certain professions (divers, drivers, pilots, military personnel) even rare fainting can have serious consequences, this group of patients is particularly in need of observation, further examination and treatment. The occurrence of fainting can be provoked by various reasons: stuffy room, prolonged standing, pain, emotional reaction, fatigue, physical strain, overheating, hunger. Syncope may occur in 3 types: cardioinhibitory (the main symptom is bradycardia

with episodes of asystole); vasodepressor (hypotension without bradycardia); mixed.

In the development of syncope there are 3 periods:

- ***Presyncopal (lithymia, pre-fainting)*** - lasts from 10 to 30 seconds, occasionally longer. Actively taken preventive measures during this period (sit down or lie down, go out into the fresh air, eliminate emotional or painful stimulus, move or call for help) very often prevent the development of fainting at the stage of lithymia and are an effective preventive measure in 30-45% of cases.

- ***The period of actual syncope (fainting)*** - loss of consciousness lasting from 5 seconds to 5 minutes, the duration and depth of naru-sheniya consciousness are different (from reaction to external stimuli to deep coma). Prevention of gross violations and persistent consequences depends on the presence of others and their special training.

- ***Post-fainting state*** - full recovery of consciousness.

Serial development of syncopal States is recorded rarely, the frequency is variable (from 1 per month to 2-3 times a year). In the inter-approach period, permanent and paroxysmal vegetative disturbances are distinguished in patients. Some patients may be combined with migraines.

To ensure effective prevention of such conditions, these patients need to be thoroughly re-examined to find out and eliminate the causes and provoking factors. In the physical status of patients, it is necessary to focus on the detection of dysembryogenetic stigmas, blood PRESSURE control (tendency to hypotension), ECG control (detection of heart rhythm disorders), ECHO-KG (condition of the valve apparatus, detection of defects of the valve apparatus, new formations).

Special attention should be paid to:

- Implementation of PE-EFI (study of the conducting system of the heart, provocation and documentation of paroxysmal heart rhythm disorders),

- Passive orthostatic test-tilt test (Westminster Protocol),

- Vagus samples (Weber and Valsalva samples),

Test with physical activity,

- Drug test (ATP).

Despite the significant prevalence of neurocardiogenic syncopal States in the structure of causes of short-term syncope, this diagnosis is often an exception.

Effective measures for the prevention of such conditions are:

- explanation of the event to the patient, risk assessment and prognosis,

- maximum exceptions of provoking events,

- normalization of water-salt balance, food behavior (stabilization of the level of trace elements and vitamins),

- medical intervention (sedatives, vitamin therapy, metabolic therapy),

- orthostatic training,

- pacing (if clinically relevant bradycardia),

- medical or surgical elimination of hemodynamically significant tachyarrhythmias.
Prospects for the treatment of these conditions are to create new methods and means of influence on all links of pathogenesis. Proper detection and prevention of these clinical situations will help to reduce the number of complications and is the key to future successful treatment of such patients.

Primary prevention of cardiovascular diseases

Milena Shakhnazaryan, cardiologist of the day hospital OF the Regional clinical cardiology clinic»

"If people ate only when they were very hungry, and if they ate simple, clean, and healthy food, they would not know diseases, and it would be easier for them to control their soul and body."

Leo Tolstoy

Cardiovascular diseases (CVD) occupy a leading position in the structure of mortality and causes of disability in countries with a high standard of living.

According to global statistics, the annual death rate from myocardial infarction is 7 million people, from stroke-5.5 million, and the number of non-fatal cardiovascular events is 3.5 times higher than the total number of deaths from CVD. And it is for this reason that a special medical, social and economic significance is acquired prevention of CVD.

Prevention of cardiovascular diseases is defined as a coordinated system of measures at the population or individual level aimed at eliminating or minimizing the effects of CVD and related disability. Currently, in many European countries, thanks to preventive measures, including successful legislation on Smoking, the prevalence of IHD has decreased by more than half. However, differences remain between countries in the prevalence of a number of risk factors, especially obesity and diabetes mellitus (DM).

If prevention were carried out in accordance with the recommendations, the prevalence of CVD would be significantly reduced.

Prevention can be divided into primary and secondary prevention.

Primary prevention is aimed at preventing the primary incidence of CVD, secondary-to reduce the risk of repeated cardiovascular events.

The cornerstone of CVD prevention is to reduce the total cardiovascular risk, and for the same reason, CVD prevention should be comprehensive and affect all risk components at the same time.

The corrected risk factors for cardiovascular diseases include: hypertension, dyslipidemia, Smoking, carbohydrate metabolism disorders, poor nutrition, overweight, alcohol abuse, low physical activity, obstructive sleep apnea syndrome, atrial fibrillation.

And uncorrected risk factors include: male gender, age (men over 55 years, women over 65 years), ethnic origin, heredity.

Primary prevention of CVD is aimed at identifying and eliminating correlated risk factors.

Preventive measures should continue throughout life: from birth to old age. It is impossible to protect yourself from all risk factors, but everyone can reduce the probability of diseases.

For the prevention of diseases of the cardiovascular system, it is important to have a proper attitude to yourself and your body.

Arterial hypertension: is the main risk factor for coronary heart disease, heart failure, cerebrovascular diseases, chronic kidney disease, pre-cardiac fibrillation.

The time of initiation of drug therapy is determined by the level of clinical blood PRESSURE, the level of cardiovascular risk, the presence of lesions of target organs or cardiovascular diseases.

Immediate initiation of drug antihypertensive therapy is recommended for all patients with grade 2 and 3 hypertension, regardless of the level of cardiovascular risk, and the target blood PRESSURE level should be reached no later than 3 months. In patients with grade 1 hypertension, you should start with recommendations of lifestyle changes, followed by an assessment of their effectiveness in relation to the normalization of blood PRESSURE.

The new Recommendations maintain 5 classes of drugs as basic antihypertensive therapy: ACE inhibitors (ACE), angiotensin II receptor blockers (ARBs), beta-blockers (BB), calcium antagonists (AK), diuretics (thiazide and thiazide-like (TD), such as chlorthalidone or indapamide) (IA). One of the most important components of successful blood PRESSURE control is the patient's adherence to treatment. The effectiveness of treatment is more associated with a decrease in blood PRESSURE, rather than with a specific drug.

One of the main helpers in the fight against diseases of the cardiovascular system is regular physical training. You don't need to become a great athlete and break world records.

High loads, as well as their complete absence, increase the risk of diseases.

Aerobic exercise is the most studied and recommended type of physical activity with a favorable dose-dependent effect on the prognosis.

Aerobic activity includes active trips (Cycling or walking), Nordic walking, running, Cycling, cross-country skiing, aerobics, skating, rowing or swimming.

Physical training should be done at least 3-5 times a week, preferably daily.

It is recommended to engage in moderate physical activity for at least 30 minutes/day 5 days a week (i.e. 150 minutes/week.) or an intensive load of at least 15 min / day 5 days a week (i.e. 75 min / week.), or combine both types of load in the form of sessions lasting at least 10 minutes.

Shorter workouts (for example, 10 minutes) may also be acceptable, especially in extremely untrained individuals. Exercise increases the level of high-density lipoproteins (HDL), reduces the level of low-density lipoproteins (LDL) and triglycerides (TG), increases insulin sensitivity, reduces blood pressure (BP), and improves endothelial function. Exercise helps prevent the risk of atherosclerosis. If the level of lipids in the blood vessels is normal, then there will be no blockage - for atherosclerosis, there are simply no prerequisites.

Healthy diet:

Nutrition should be balanced: both lack and excess of various elements can increase the chances of disease. It is essential to limit the use of salt. To reduce the chances of heart problems, you should eat more fish - it prevents the accumulation of cholesterol, and eating fish at least once a week reduces the risk of coronary heart disease by 16%. Take food often - 4-5 times a day, in small portions.

Body weight control: Overweight and obesity increase the risk of death from CVD and overall mortality. The lowest overall mortality rate is observed at a BMI of 20-25 kg / m²; further weight loss does not reduce the risk of CVD.

Give up bad habits:

Smoking (more precisely, nicotine) narrows the blood vessels, causing them to spasm. In addition to the short-term effect, there is also a permanent one - the vessel walls are damaged, and plaques appear on them. Quitting Smoking is the first step to preventing blood clots and vascular destruction.

Alcohol has a double cardioprotective - cardiopathology effect on the cardiovascular system. Its positive effects are manifested only when using small doses (1 drink per day). When alcohol enters the bloodstream, blood clotting increases. As a result, the vessels become less passable and there is a risk of clot formation. Additional problems from drinking alcohol: increase in the level of cholesterol and oxygen starvation of tissues.

Reduce stress: adrenaline causes a rapid heart rate, there is a spasm of blood vessels, the pressure increases, the heart valve is worn out faster.

Sleep can also prevent heart disorders - perhaps the simplest and most pleasant type of prevention of diseases of the cardiovascular system. During the night's sleep, the heart will relax, rest and prepare for new high loads.

The cardiovascular system is one of the most important in ensuring life and proper functioning of the entire body. Since we live in an era of emotional overload, low-quality food and constantly deteriorating environment, it is important to closely monitor the state of the vascular bed, to carry out preventive measures to prevent the development of the disease and possible complications.