

Chronic Heart Failure: Its Causes, Symptoms and Therapy

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DESCRIPTION

Causes

The causes of heart failure are coronary heart disease, toxic damage by alcohol, cocaine, amphetamine, anabolic steroids, cytostatics, immunomodulators, antidepressants, antiarrhythmics, NSAID, etc., immune mediated and inflammatory damage by bacteria, spirochetes, fungi, protozoa, parasites (Chagas disease), rickettsia, viruses, etc., metabolic derangements by thyroid and parathyroid diseases, hypercortisolemia, Conn's disease, Addison, diabetes, MS, pheochromocytoma, periparturient CMP, obesity, cachexia, genetic disorders by HCM, DCMP, ARVC, RCMP, LV non-compaction, autoimmune diseases. Abnormal loading conditions are AH, congenital and acquired heart disease, pericardial and endomyocardial pathologies, high output states like severe anemia, sepsis, thyrotoxicosis, pregnancy, volume overload (renal failure, iatrogenic fluid overload), tachyarrhythmias, bradyarrhythmias.

Symptoms

Typical symptoms are breathlessness, orthopnoea, paroxysmal nocturnal dyspnoea, reduced exercise tolerance, fatigue, tiredness, increased time to recover after exercise, ankle swelling. Less typical symptoms are nocturnal cough, wheezing, confusion (especially in the elderly), depression, loss of appetite, palpitation, bendopnea. More specific symptoms are elevated jugular venous pressure, hepatojugular reflux, third heart sound (gallop rhythm), and laterally displaced apical impulse. Less specific symptoms are bloated feeling, less specific weight gain (2 kg/week), weight loss (in advanced heart failure), cachexia, cardiac murmur, peripheral oedema (ankle, sacral, scrotal), pulmonary crepitations, pleural effusion, tachycardia, irregular pulse, tachypnoea, chyme stokes respiration, hepatomegaly, ascites, cold extremities, oliguria, narrow pulse pressure. Mandatory laboratory tests in polyclinic are CBC, urinalysis, glucose (HbA1c in DM), Lipid profile (TC, LDL, HDL and TG), creatinine, GFR, ALT, AST, bilirubin, serum electrolytes, BNP, NT-proBNP, iron status. Additional laboratory tests according to indications are ASLO, CRP, troponin,

INR, TSH, T4, protein, albumin. Mandatory instrumental tests in polyclinic are ECG, echocardiography, CXR, 6 minute walking test. According to indications: Holter monitoring, stress Echo, CT, MRI. Treatment objectives are elimination or reduction of the causative factor, relief of the symptoms of the disease, protection of target organs from further damage to brain, heart, kidneys, blood vessels, and muscles, improving the quality of life, reducing the number of hospitalizations and improving prognosis. Some of the lifestyle modifications are smoking cessation, dietary recommendations are lipid-lowering, vitamin rich diet, fresh vegetables, fruits, 4-5 times meal intake, restriction of salt to 2.0-3.0 gram per day, restriction of water to 1.0-1.5 liters per day, restriction of alcohol consumption, decrease body weight (if the person is obese), physical exercises, etc.

Drug therapy of Chronic Heart Failure (CHF)

The main group of drugs are ACE inhibitors, ARB, ARNI, beta blockers, Mineralocorticoid Receptor Antagonists (MCRA), SGLT inhibitors, diuretics (in volume overload). Additional group of drugs are guanylate cyclase stimulator (vericiguat), cardiac glycosides, vasodilators. Drugs prescribed depending on the etiology are anticoagulants, antiaggregants, antiarrhythmic agents, lipid-lowering, hypotensive, glucose reducing. Indications for hospitalization is when it shows acute decompensation of CHF, CV-complications development (MI/ACS, development of life-threatening types of arrhythmias, hypertensive crises, high activity carditis in rheumatic fever and myocarditis, fresh vegetation in bacterial endocarditis), refractoriness to ongoing therapy at the outpatient stage, to clarify the diagnosis and select therapy, the need for inotropic therapy (hypotension, signs of cardiogenic shock, etc.), severe fluid retention: Pulmonary edema, exacerbation of nephrotic syndrome, progressive deterioration of renal function. Prevention of CHF is by taking proper treatment for coronary heart disease, hypertension, treatment of supraventricular tachyarrhythmias and persistent tachycardias, therapy of thyroid diseases, avoid cardiotoxic drugs, treatment of DLP.

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