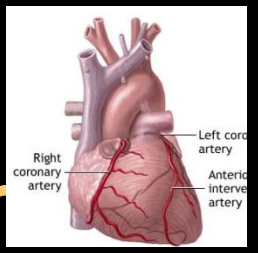
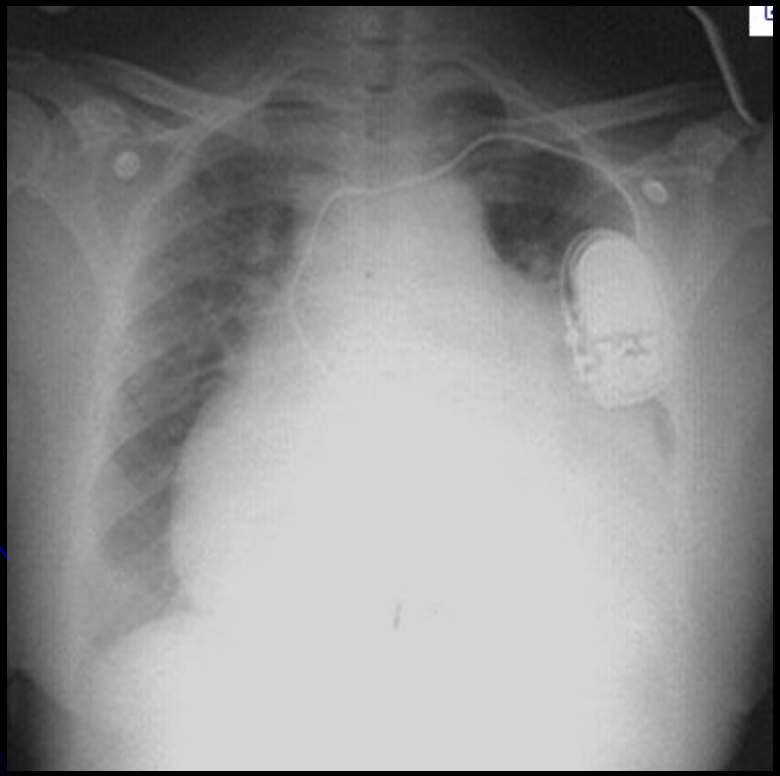
Symptoms in cardiovascular diseases





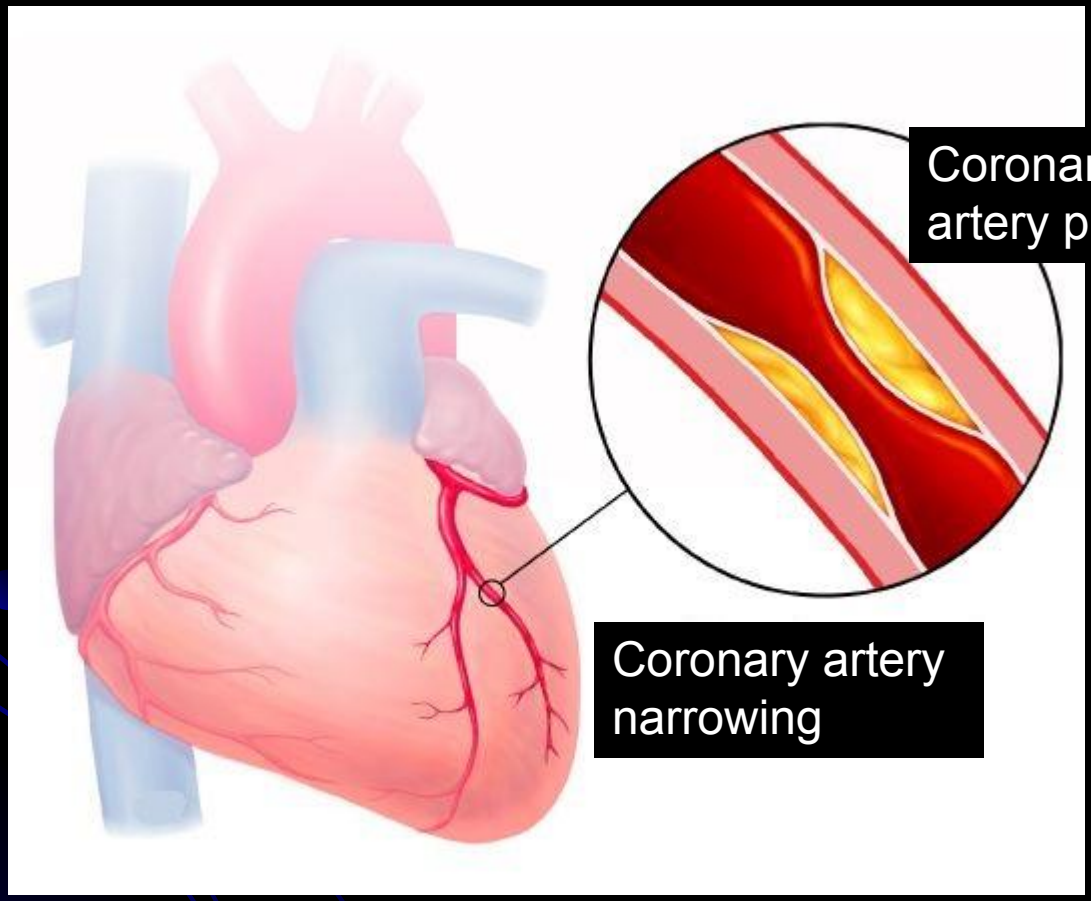
Heart complaints

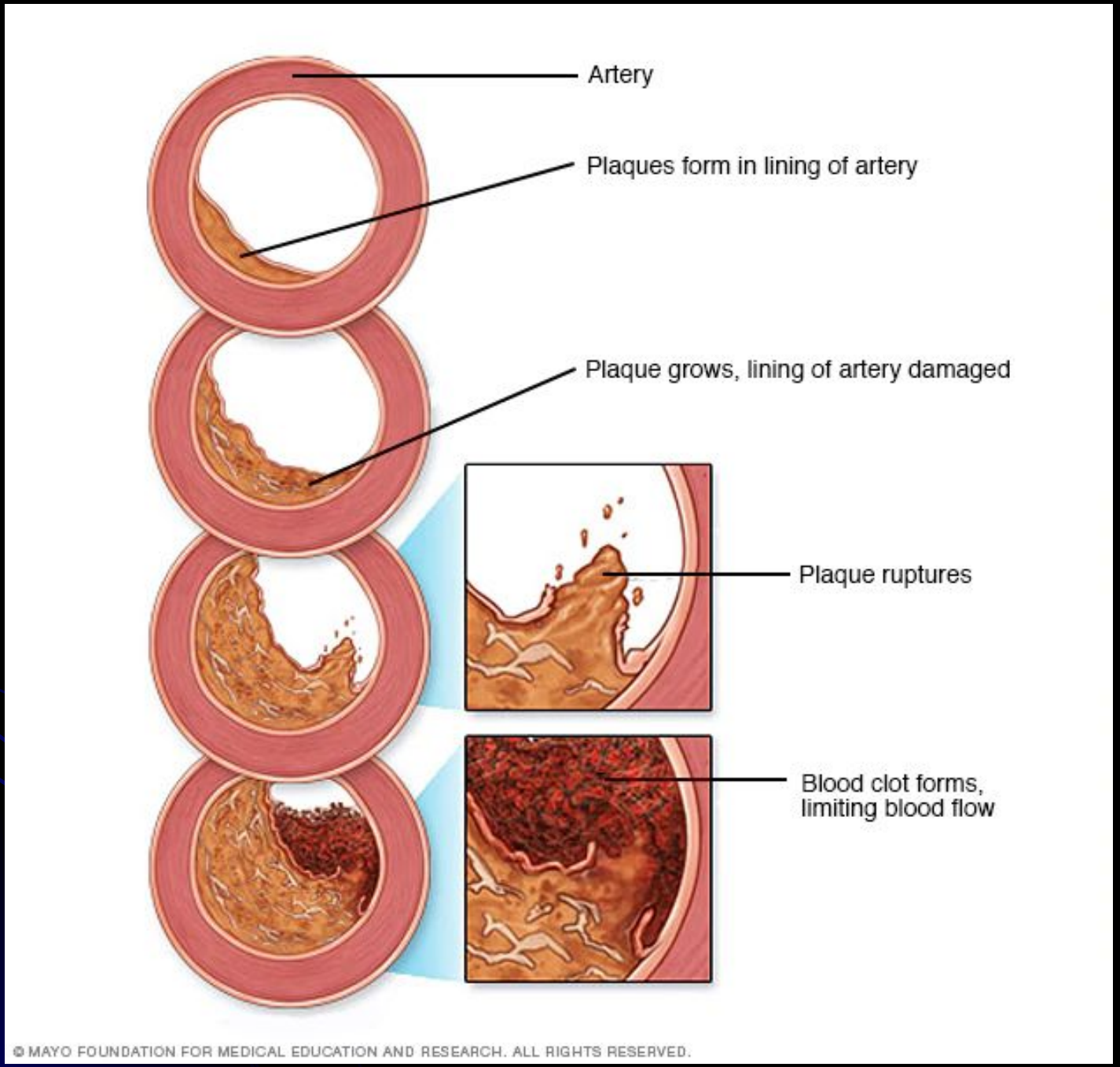
- Chest pain
  - Angina pectoris
  - Heart attack pain
  - Cardialgia (non-coronary pain)
- Palpitations and interruptions in the work of the heart
- Fainting (loss of consciousness, syncope)
- Dyspnea (shortness of breath)
- Cough
- Weakness and fatigue
- Edema

Causes of chest pain

- Heart disease
  - Ischemic heart disease
  - Pericarditis
- Vascular disease
  - Aortic dissecting aneurysm
  - PE
- Diseases of the lungs
  - Pleurisy
  - Pneumothorax
- Diseases of the gastrointestinal tract
  - Esophagitis
  - Peptic ulcer
  - Cholecystitis
  - Pancreatitis
- Diseases of the musculoskeletal system
- Psychogenic pain
  - Fibromyalgia

Angina pectoris





Pathogenesis of angina pectoris

The lumen of the artery is narrowed by plaque by 60-70%

↓

Inability to increase coronary blood flow with an increase in myocardial demand for O2 (increased heart rate, blood pressure, contractility)

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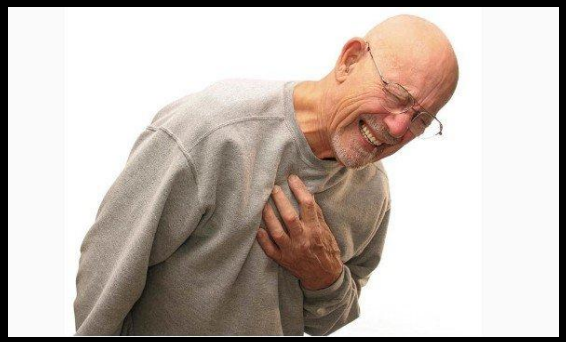
Supply of the O2 does not meet the O2 demand

↓

Myocardial Ischemia

↓

Angina pectoris

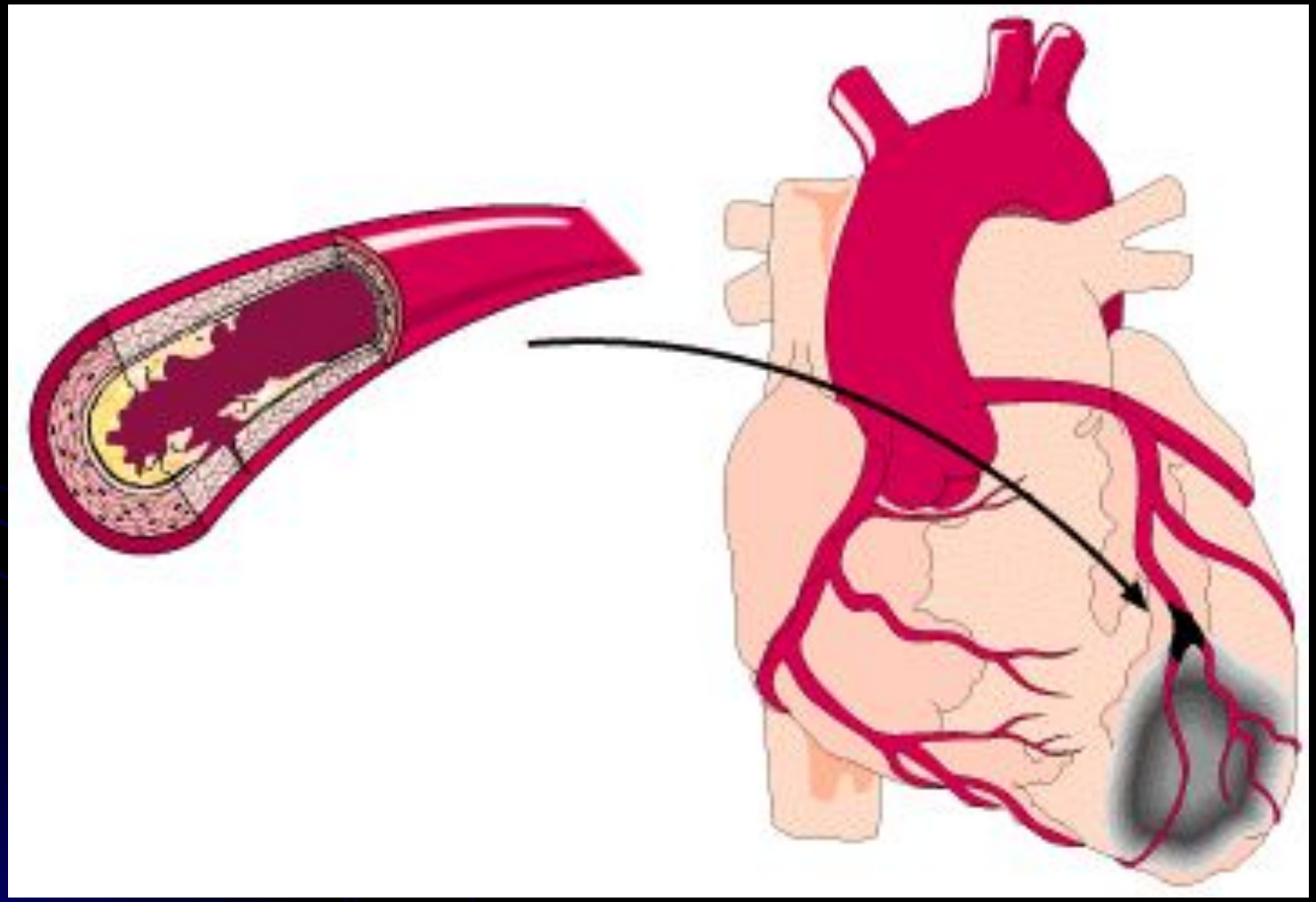


Clinical features of angina pectoris

- Discomfort or pain of a pressing, squeezing character, a feeling of heaviness
- Typical localization - behind the breastbone
- Irradiation - to the neck, jaw, epigastrium, or arms
- Duration of an angina attack - minutes

- Provoked by physical or psycho-emotional stress
- The pain goes away at rest, s/l nitrates relieve the pain in 30 seconds or a few minutes
- Associated symptoms: fear, sweating, palpitations, arrhythmias, shortness of breath

Heart attack pain



Pathogenesis

Plaque rupture with thrombus formation at the rupture site

↓

CA occlusion

↓

No flow and O2 delivery

↓

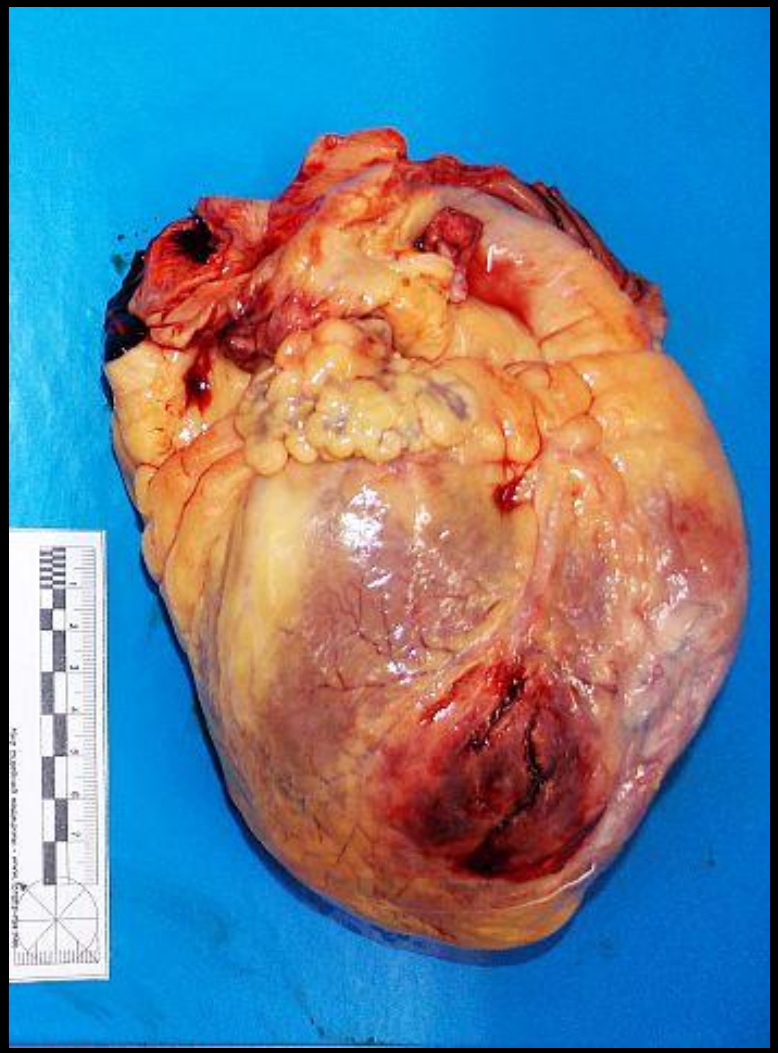
Severe and prolonged myocardial ischemia

↓

Heart attack pain

Feature

- The pain is similar in character to angina pectoris
- Stronger and longer lasting (> 30 min)
- Does not go away at rest and after taking nitroglycerin
- Can be stopped with narcotic analgetics
- Often accompanying symptoms: cold sweat, palpitations, shortness of breath, fear of death



NonCoronary pain

- NCP - nonspecific chest pains of various nature
- Are established by excluding all other causes of chest pain, primarily angina pectoris

Palpitation

- The sensation of P occurs with an increase in heart rate and / or an increase in the work of the heart
- Constant heartbeats (sinus tachycardia with HF or with thyroid hyperfunction)
- Sudden heartbeats

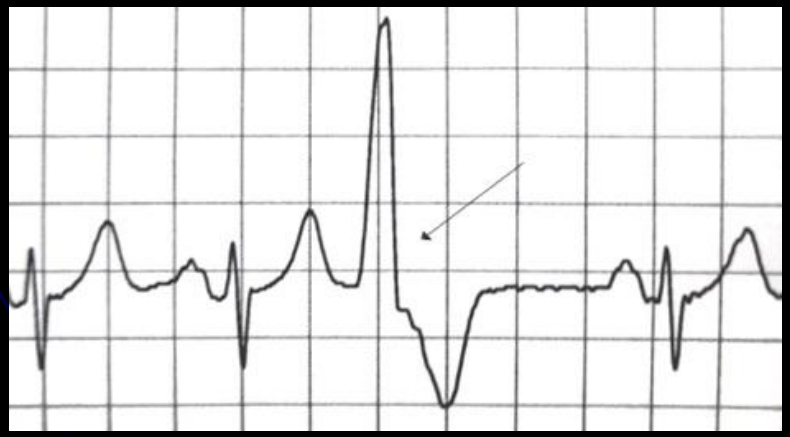
  - Rhythmic (paroxysmal tachycardia) or irregular heartbeat (atrial fibrillation)
- Ask patient: how attacks are provoked and stopped?
- Duration and frequency of attacks?
- Concomitant symptoms (severe heart rhythm disturbances cause: a decrease in cardiac output - presyncope and syncope, ALVF - dyspnea, ischemia - angina pectoris)

Interruptions of heart beats

- Feeling of extra beats or pause
- Causes: extrasystoles, atrial fibrillation

Ask patient:

- About provocation and relief
- How often there are happened ?



Syncope (fainting)

The main reason of cardiogenic fainting – sudden decrease of the cardiac output and brain arterial flow deficiency.

Causes:

- Cardiac arrhythmias – bradycardia HR < 35-40, tachycardia HR > 150
- Acute myocardial infarction
- Pulmonary embolism

Shortness of breath

- Shortness of breath - a painful sensation difficulty breathing
- The degree of shortness of breath is determined by the level of physical activity
- Cardiac dyspnea is a manifestation of LV HF

Pathogenesis of dyspnea

LV disease

↓

Decreased contractility and / or impaired LV relaxation

↓

Congestion of the blood in the pulmonary circulation

↓

Violation of gas exchange

↓

Excessive activation of the breathing drive center (brain)

↓

Overload of breath muscles

↓

Dyspnea

- In severe LV HF, dyspnea appears when lying down - ortopnea

- Pathogenesis : in the supine position

↑ P hydrostatic in the lungs due to the redistribution of fluid from the veins of the LE to the vessels of the chest → increased pulmonary congestion

Nocturnal attacks of cardiac asthma

- Attacks of severe shortness of breath and coughing at night (in the 1st half), which cause the patient to awaken
- Pathogenesis

↓ adrenergic myocardial stimulation

Increased blood volume ("resorption" of edema) and venous return

↓

A sharp increase in pulmonary congestion

Cough

- Cough is common in LV HF
- Characterized by the appearance of a dry cough with exertion or lying down (often with shortness of breath)
- Pathogenesis - edema of interstitial and bronchial tissue with pulmonary congestion

Fatigue and weakness

- Frequent and earliest but nonspecific symptoms of LV HF
- Pathogenesis

Inability of the heart to provide the necessary blood flow for muscle function

Life history

- Age - an increase in the prevalence of arterial hypertension and the likelihood of CHD with age (men> 55 years, women> 65 years - CVD RF)
- Gender - male gender is a risk factor for CVD
- Childhood period:

- frequent sore throats – rheumatic fever
- frequent acute respiratory infections, pneumonias, stunting – CHD

- Lifestyle and dietary habits

- sports loads
- hypodynamia - lack of exercise (RF CVD)
- food rich in animal fats and cholesterol
- occupation (stress, hypodynamia, night job)

- Bad habits
  - smoking (RF CVD)
  - alcohol abuse
- Gynecological history - postmenopause (RF CVD)
- Family history (hypertension, diabetes mellitus, ischemic heart disease, MI, SD, strokes; early onset of CVD in close relatives)

Smoking accelerates the aging of blood vessels and heart !!!

General examination

- The severity of the condition is determined
  - by the severity of heart failure,
  - by presence of the coronary syndrome,
  or high blood pressure
- Consciousness can be impaired with a sharp increase in blood pressure or a fall in CO (cardiogenic shock)

- Ortopnea position - with severe LV heart failure

- Anthropometry
  BMI (20-25 kg/m^2 and waist (80/94 sm)

Obesity and overweight - RF CVD (hypertension, ischemic heart disease, diabetes mellitus)

Skin

- Acrocyanosis (peripheral cyanosis)
  ↓ cardiac output → slowing blood flow → ↑ O2 extraction from blood → ↑ concentration of dezoxyhemoglobin

- Central (diffuse) cyanosis (right-to-left shunt with CHD or lack of the oxygenation of blood in the lungs)

- Joundice of the skin (cardiac fibrosis of the liver)
- Cold, moist skin (vasoconstriction in severe LV HF)
- Xanthomas and xanthelasms (deposition of cholesterol in the skin with dyslipidemia)


xanthoma

Other symptoms

Edema

- Pathogenesis

RV HF

↓

↑ P in veins

↓

↑P in capillars

↓

Fluid transudation to the interstitium

↓

Edema

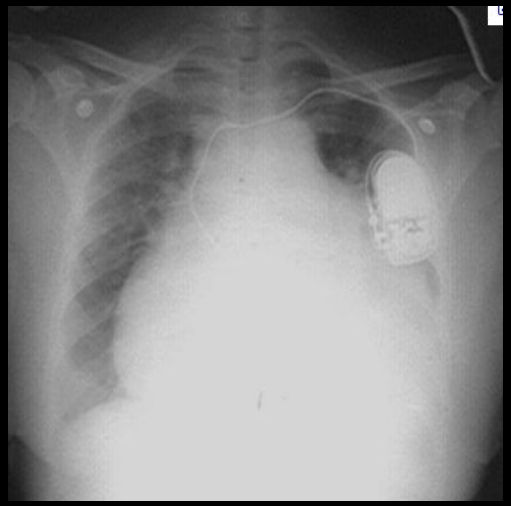
Features of cardiac edema

- Symmetrical, cold, cyanotic
- Distributed by gravity
- Strengthen in the evening, decrease in the morning
- When pressed, a fossa remains
- Visible swelling occurs when> 3 L of fluid has accumulated

Investigation of the lungs in cardiac patient

- Percussion dull sound - sign of hydrothorax

- Fine crackles (late inspiratory) in lower lobes bilateraly – pulmonary congestion



Examination and palpation of the heart area

- Apex beat

Localization (left or left and downward displacement in LV hypertrophy and dilation)

Area (an increase of more than 2 cm – LV dilation)

Duration (long-term AB reflects LV pressure overload in hypertension or AS)

- Pathological pulsations (beats)

- Precardiac beat - 3-4-5th i/s to the left of the sternum (dilation and hypertrophy of the RV)
- Epigastric pulsation (dilation and hypertrophy of the RV)
- In the 2nd i/s on the left - pulsation of the PA (PAH, increased pulmonary blood flow)
- In the 2nd i/s on the right - aortic pulsation (aneurysm of the ascending part of the aorta)

- Heart murmur over the region of the heart - palpable low-frequency vibration of the chest wall, caused by a heart noise (appears with an intense noise)
- Apex systolic murmur – mitral insufficiency
- Systolic murmur at the base of the heart:

- on the right - AS (performed on the vessels of the neck)

- diastolic murmur at the base of the heart on the right – aortic insufficiency

Acrocyanosis