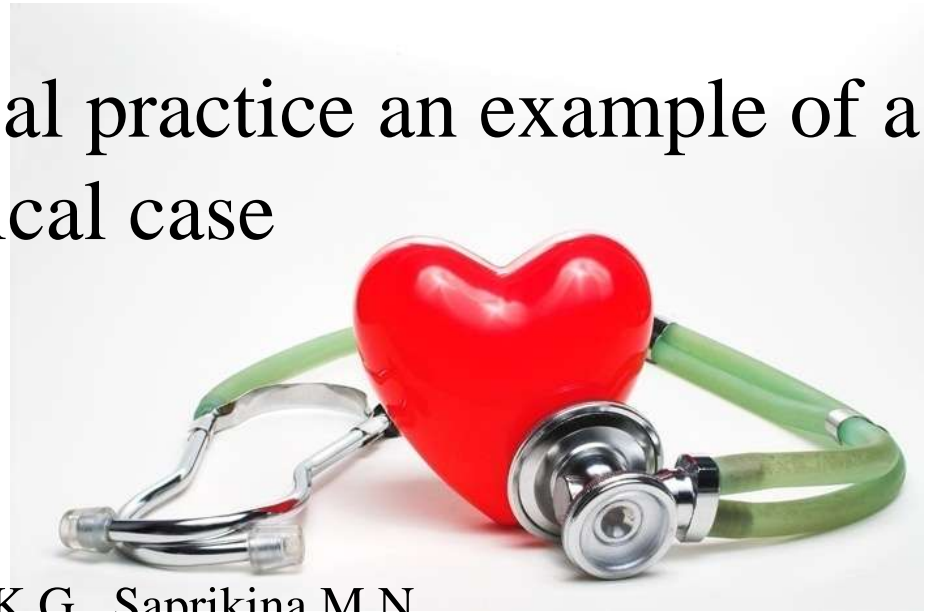


Polymorbidity in clinical practice an example of a clinical case



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Polymorbidity (multimorbid)

more than one disease in one patient

- ▶ Most polymorbidity formation is completed by the age of 60
 - ▶ Most often in different combinations and varying degrees of clinical symptoms observed
 - ▶ atherosclerotic vascular disease of the heart and brain (ischemic heart disease (IHD), arteriosclerotic encephalopathy), symptomatic (atherosclerotic) arterial hypertension (hypertension)
 - ▶ lung emphysema
 - ▶ neoplastic processes in the lungs, digestive organs, skin
 - ▶ chronic gastritis with secretory insufficiency
 - ▶ diabetes mellitus
 - ▶ osteochondrosis, arthrosis
 - ▶ eye diseases (cataract, glaucoma), and others.
-



OUR PATIENT

- ▶ Woman, 75 years old
- ▶ Location: city of regional subordination
- ▶ Pensioner
- ▶ Date of admission: September 2014



COMPLAINTS

- ▶ Sharp pressing chest pain during moderate physical and emotional stress, without irradiation, stopped after taking 1 tab. nitroglycerin
- ▶ Transient increase in blood pressure to 150/80 mmHg, accompanied by headache in the neck, stopped by drugs (captopril or propranolol)
- ▶ Periodic heartbeat with heart rate over 100 beats / min. Occurring without a clear connection with the provoking factors and accompanied by a lack of air
- ▶ Moderate shortness of breath when walking up to 15-20 m, stopped after stopping
- ▶ Swelling of the lower third of the lower legs in the evening, held in the morning after sleep
- ▶ Numbness fingertips on both feet
- ▶ Pain in the calf muscles when walking up to 50 m



History of the disease

- ▶ Since 1990, with the rise of blood pressure fluctuations up to 170-150 / 80 mm Hg (work BP 140/80 mm Hg)
 - ▶ Since the autumn of 2007 - ischemic heart disease, angina FC III, obliterating atherosclerosis of the lower extremities against type 2 diabetes, insulin is secondary. Repeatedly treated inpatient, outpatient constantly taking nitrates, beta-blockers, aspirin, insulin
 - ▶ November 2008 - femoropopliteal allos hunting for obliterating atherosclerosis of lower limb arteries
 - ▶ Repeatedly treated permanently for angina FC III-IV, paroxysmal atrial fibrillation, outpatient antianginal medications without the full effect
 - ▶ 2009 - renal artery bypass grafting
 - ▶ 2010 - elyuting stenting (4 elyuting stents in the left anterior descending (LAD), diagonal branch (I DB), the circumflex branch (CB)) of coronary arteries
 - ▶ 2011 - plastic stenting of left anterior descending (LAD) artery
 - ▶ 2012 - stenting of one of the branches of the coronary arteries, unspecified
 - ▶ In connection with an increase in heart attacks admitted to a clinic
-



LIFE HISTORY

- ▶ Lives alone in an isolated apartment
 - ▶ two children
 - ▶ 40 years experience of teaching, 20 years - the principal
 - ▶ 1963 - encephalitis
 - ▶ From 1972 - Type 2 diabetes mellitus, insulin-dependent secondary (1972-1974 Maninil (5-10 mg / d), since 1974 - Insulin (48 pcs. / d))
 - ▶ 1980 - hysterectomy, appendectomy, removal of atheroma on the right hand
 - ▶ 2009 - phacoemulsification in both eyes, surgery for retinal detachment
 - ▶ Osteochondrosis L3-L4, L4-L5, L5-S1, osteoarthritis of the right shoulder and knee joints unidentified ago
 - ▶ Viral hepatitis, tuberculosis, venereal diseases denied
 - ▶ Allergies to medications, food purged household chemicals are not noted
 - ▶ Do not smoke, does not drink alcohol
 - ▶ Family history is not burdened by coronary heart disease and hypertension
-



PERFOMANCE STATUS

- ▶ Condition is satisfactory, active growth, hight- 156 cm, weight - 65 kg , BMI= 26,7 kg/m²
 - ▶ Skin pale pink color
 - ▶ Peripheral lymph nodes: submandibular, axillary and inguinal lymph nodes of soft consistency, painless, moderately agile and not soldered to each other and the skin
 - ▶ Lobe of the thyroid is not palpable, the isthmus is palpated as a homogeneous smooth cross-strand, 1 cm wide
 - ▶ Musculoskeletal system without features, pain during lumbosacral palpation
 - ▶ Above mild lung sounds, auscultation - weakened vesicular breathing in the lower divisions
 - ▶ Heart borders extended to the left, rhythmic activity, tachycardia (heart rate 95 bpm.). Heart tones are muted, accent II tone of the aorta. Systolic murmur diffuse from the epicenter of the aorta.
 - ▶ Blood pressure 140/80 mm Hg on hypotensive therapy
 - ▶ Abdomen normal size, sensitive to palpation. Liver at the costal margin, painless. Physiological - atendency to constipation, urination - within the age norm
 - ▶ Sign of a beating on the lumbar region is negative on both sides
 - ▶ Auscultation vessels without features
 - ▶ Pastiness of the lower third of the leg
-



PLAN OF SURVEY

- ▶ Clinical analysis of blood
- ▶ Clinical analysis of urine
- ▶ Biochemical analysis of blood (bilirubin, ALT, glucose, creatinine, lipids)
- ▶ Chest X-ray
- ▶ ECG
- ▶ Echocardiography
- ▶ Ultrasound of abdomen
- ▶ Radiography of the lumbosacral and pelvic bones

MORE RECOMENDATION

- ❖ glycemic profile
- ❖ glycosylated hemoglobin
- ❖ INR, electrolytes (Na, K)
- ❖ ECG monitoring Holter + BP
- ❖ consultation of ophthalmologist
- ❖ consultation of endocrinologist (insulin titration)
- ❖ consultation of nephrologist
- ❖ Sigmoidoscopy (verification of chronic colitis)



CLINICAL ANALYSIS OF BLOOD (09/30/14)

MEASURE	RESULT	RATE (g)
Hemoglobin	138 g / l	F 120 - 140 g / l
Erythrocytes	4.35 T / L	F 3.9 - 4.7 T / L
Color index	0,9	0,85 – 1,15
Leukocytes	5.7 g / L	4,0 – 9,0 g/L
ESR	10 mm / h	2-15mm/h
Stable Neutrophil	2%	1-6 %
Segmented Neutrophile	71%	47-72 %
Eosinophils	2%	0,5-5,0%
Basophils	0.5	1-1,0 %
Lymphocytes	24%	19-37%
Monocytes	8%	3-11 %
Platelets	261 g / l	160-320 g/L
Hematocrit	40,4%	36-42%

► All figures are in the normal range

CLINICAL ANALYSIS OF URINE (09/30/14)

MEASURE	RESULT	NORMAL RANGE
Applies. DENSITY	1,009	1,001-1,040
REACTION	6,0	5,0-7,0
PROTEIN	Not detected	to 0.033 g / l
GLUCOSE	Not detected	absent
LEUCOCYTES	1-2	6-8
EPITHELIUM TRANSITION	Not detected	
BACTERIA	Not detected	

All figures are in the normal range



BIOCHEMICAL ANALYSIS OF BLOOD

(30/09/14)

MEASURE	RESULT	NORMAL RANGE
The total bilirubin	6.53 mmol / l	1,7-21,0 mmol/L
Alanine aminotransferase	23 u/L	<31 u/L
Creatinine	101.5 mol / L	53-97 mol / L
Glucose	10,39 mol / L	4,2-6,1 mmol / L

Creatinine clearance by Cockcroft -Golt = 52 ml / min (≥ 90 ml / min)

Hypercreatininemia, hyperglycemia



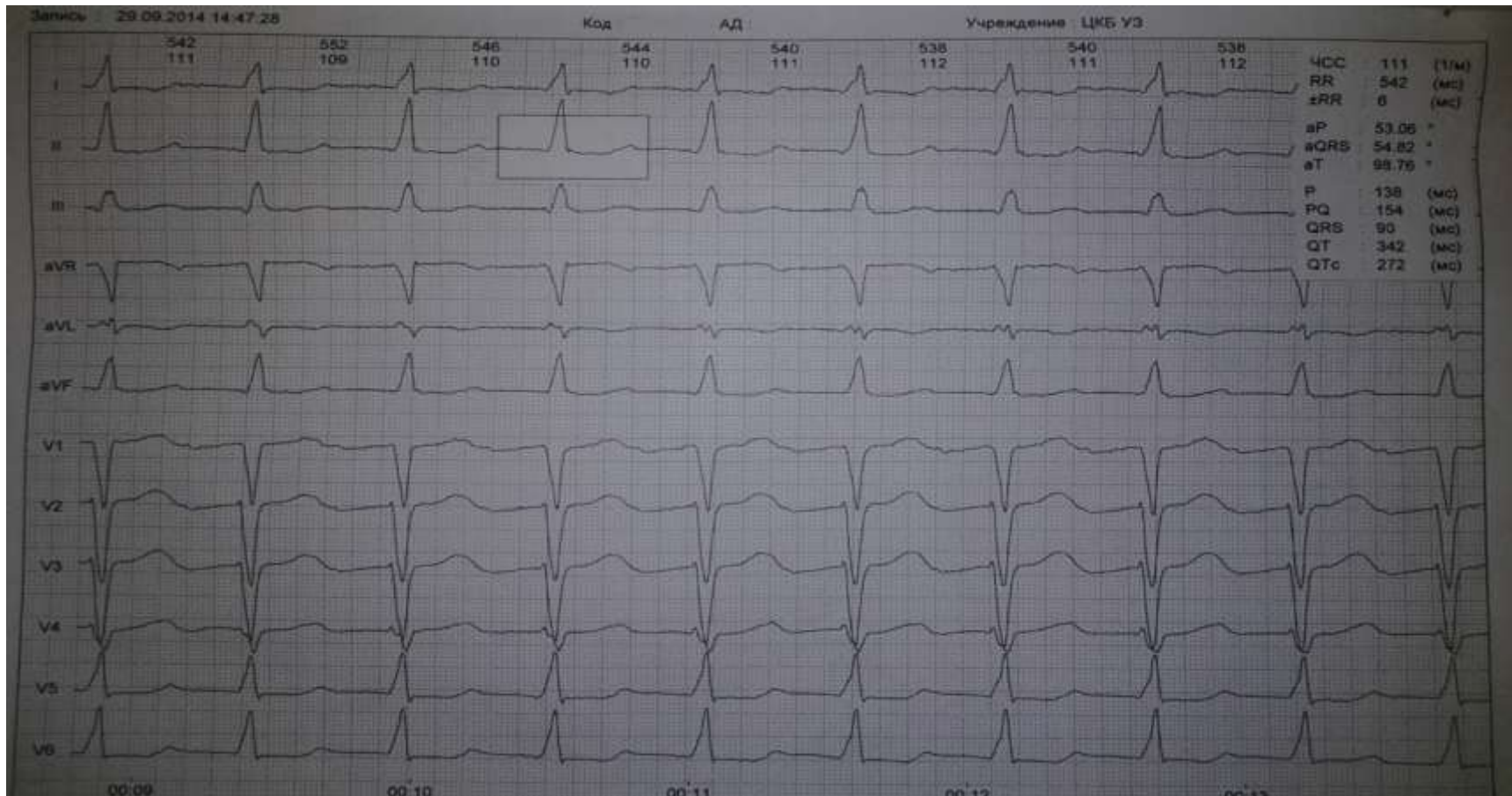
BLOOD LIPID SPECTRUM (09/30/14)

MEASURE	RESULT	NORMAL RANGE
TOTAL CHOLESTEROL	4,58 mmol/l	$\leq 5,2$ mmol / l
VLDL	0,81 mmol/l	$< 1,0$ mmol/l
LDL	1,93 mmol/l	$< 3,5$ mmol/l
HDL- cholesterol levels	1,84 mmol/l	$\leq 0,9$ mmol / l
Triglycerides	1,80 mmol/l	$< 2,3$ mmol/l
COEFFICIENT atherogenic	1,48 mmol/l	To 3,0 mmol/l

All figures are in the normal range

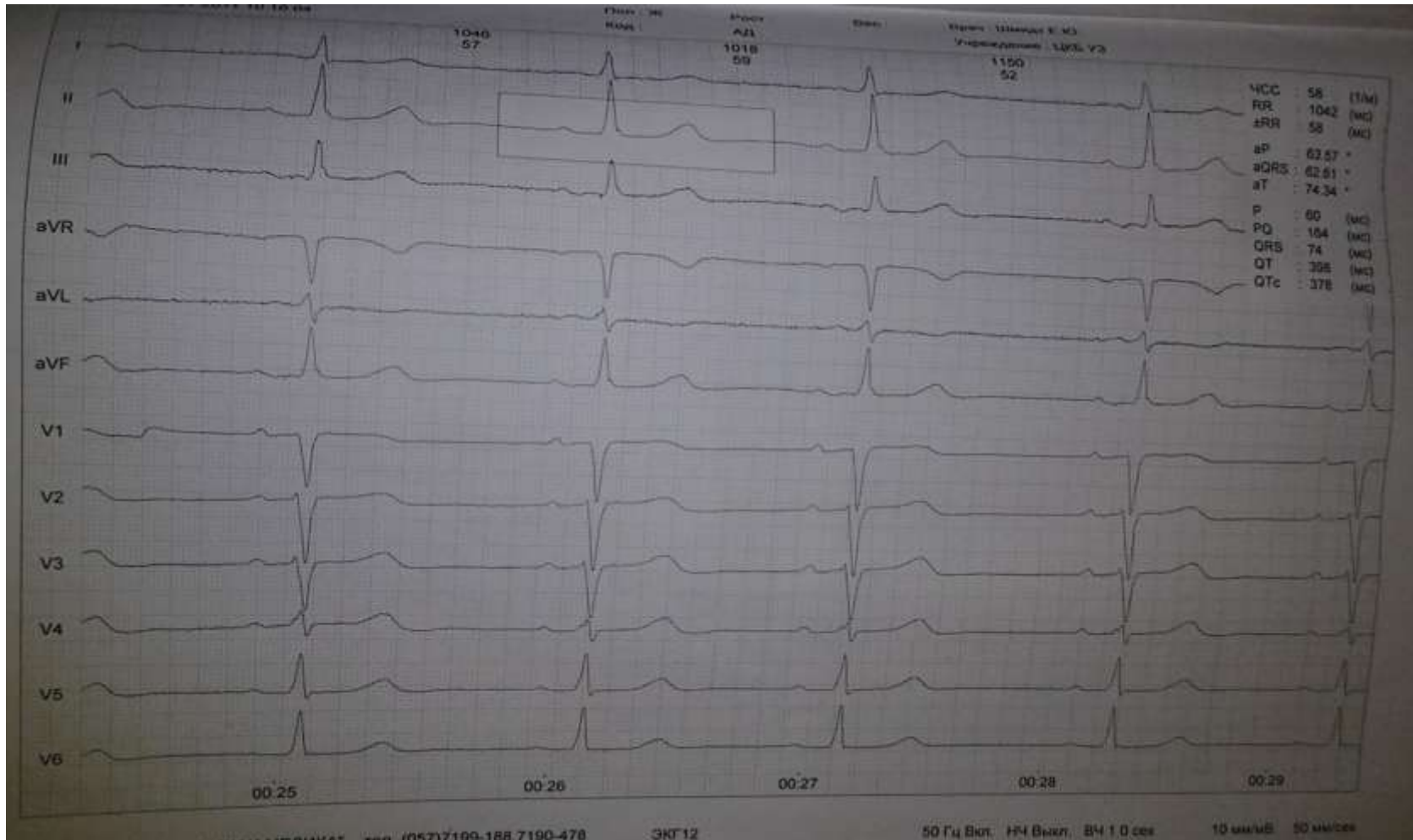


ECG (29.09.14)



Atrial flutter, tachysystolic form with holding 2: 1. HR = 111 bpm. Signs of left ventricular hypertrophy. Violation of repolarization in the anterior-posterior-lateral parts of the left ventricle

ECG (30.09.14)



Sinus rhythm, regular. Deviation EOS left. Violation of repolarization in the anterior wall of the left ventricle. Left ventricular hypertrophy

ECHOCARDIOGRAPHY (1.10.14)

- ▶ **Aorta: increased aortic wall density, thickened, calcification, the valve opening of 12.9 (17.3 mm)**
- ▶ **The left ventricle: posterior wall thickness in diastole 15.2 (6-11 mm), the interventricular septum - 14.7 (6-11 mm), ejection fraction - 55% (55-80%). Mitral valve: elevated flap density, thickened, calcification, reversing, posterior flap movement sharply limited, opening amplitude -19.3 (26-35 mm), diastolic velocity cover -30.0 (50-180) cm / s**
- ▶ **The diameter of the right ventricle 25.2 (32 mm). Tricuspid valve regurgitation-II stage.**
- ▶ **Anterior-posterior left atrial size 42 (13-37 mm), right - 40.6 mm (13-37 mm)**
- ▶ **Pulmonary valve - regurgitation I st.**

Sclerotic changes in the walls of the aorta, fibrosis and calcification of the aortic and mitral valves, aortic valve stenosis.

Stenosis of the left atrioventricular orifice mild.

Left ventricular hypertrophy on the concentric type.

Dilatation of both atria.

Tricuspid regurgitation II item



CHEST X-RAY (08/10/14)

- ▶ Focal and infiltrative changes in the lungs were not identified. Signs of venous hypertension. Diffuse pulmonary fibrosis. Roots structurally enhanced by vascular component. Right sinus obliterated. Heart aortic configuration, extended to the left. Aorta is sclerotic in the arcus region.



ULTRASOUND OF ABDOMEN (1.10.14)

- ▶ Diffuse changes in the liver parenchyma and pancreas without magnification.
- ▶ Cholesterosis gallbladder.
- ▶ Microcalculosis in kidney.
- ▶ Right-hydrocalicosis.



X-RAY lumbosacral department (1.10.14)

- ▶ Diffuse osteoporosis
- ▶ Left-sided scoliosis
- ▶ Osteochondrosis L5-S1 with spondyloarthrosis
- ▶ Spondylosis deformans
- ▶ Fragmented vascular calcification



X-RAY of the pelvis (1.10.14)

- ▶ Degenerative-dystrophic changes in the hip joints to osteoporosis

BASIC CLINICAL SYNDROMES 1

- ▶ Atherosclerosis is a systemic atherosclerosis with aortic stenosis, coronary artery disease, atherosclerotic stenosis of the left atrioventricular valve, atherosclerosis of the renal arteries and arteries of the lower extremities with bypass surgery, fragmentary vascular calcification of pelvic
- ▶ Chronic coronary insufficiency (angina of effort FC III), elyuting stenting anterior descending (AD), diagonal branch (DB), the circumflex branch (5 stents 2010-2012))
- ▶ Isolated systolic hypertension stage III of I degree: left ventricular hypertrophy on the concentric type, SBP 150 mm Hg, diastolic blood pressure 80 mm Hg, atrial dilatation
- ▶ Arrhythmic syndrome (persistant atrial fibrillation, atrial flutter)
- ▶ Chronic heart failure (CHF), stage II FC III



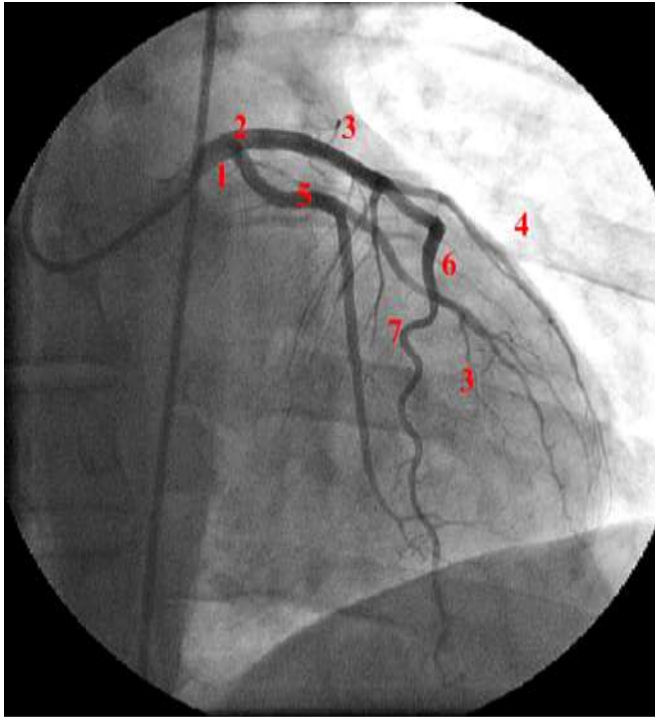
BASIC CLINICAL SYNDROMES 2

- ▶ Phacoemulsification in both eyes, surgery for retinal detachment
- ▶ Hyperglycemic syndrome (diabetes type II second insulin Propagation-step sub compensation, the average severity)
- ▶ Chronic renal failure (creatinine clearance 52 mL / min)
- ▶ Overweight: BMI = 26.7 kg / m²
- ▶ Articular syndrome (left-sided scoliosis, osteochondrosis and spondiloarthrosis L5-S1, spondylosis deformans, coxarthrosis)
- ▶ Syndrome disturbances in motor function of the colon hypokinetic type (constipation)



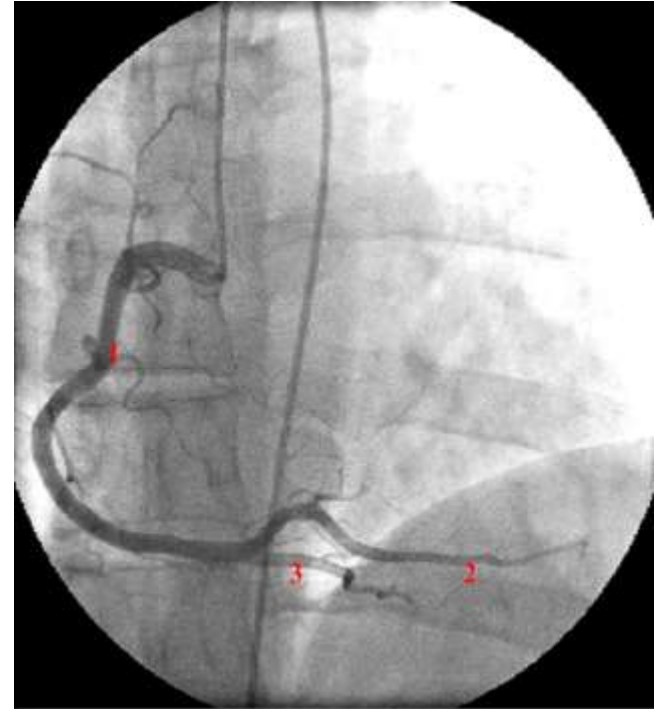
HEART BLOOD SUPPLY (according to coronary angiography)

The left coronary artery



- 1 - the mouth of the left main coronary artery
- 2 - LCA
- 3 - LAD (left anterior descending branch)
- 4 - DB (diagonal branch)
- 5 - CB (circumflex branch)
- 6 - OMB (obtuse marginal branch)
- 7 - PIB (posterior interventricular branch)

The right coronary artery



- 1 - RCA (right coronary artery)
- 2 - PIB (posterior interventricular branch)
- 3 - (a branch of the sharp edge)
interventricular branch)

HEART BLOOD SUPPLY

- ▶ The left coronary artery (LCA) supplies the left atrium, the entire front and larger part of the rear wall of the left ventricle, the anterior wall of the right ventricle and the front two thirds of the interventricular septum.
 - ▶ Right coronary artery (RCA) supplies the right atrium of the front and the entire back wall of the right ventricle, a small portion of the rear wall of the left ventricle, atrial septal, posterior third of the interventricular septum, papillary muscles of the ventricles.
 - ▶ Type of blood supply to the heart is determined by the artery, forming a posterior descending branch and supplies the lower rear wall of the left ventricle and the AV node. The "right" type A (RCA) blood supply occurs in 70% of people. "Left" type (LCA) of blood supply - 20% of people
-

CLASSIFICATION OF IND

----- (WHO, 1979; Ukrainian Heart Association Recommendations, 2011) -----

- ▶ I sudden cardiac death.
 - ▶ I.1. Clinical sudden coronary death with successful resuscitation.
 - ▶ I.2. Sudden cardiac death (death) In case-based development of acute coronary insufficiency or acute myocardial infarction (code I 24.8 or I 22 to ICD-X).
- ▶ 2 Angina (code I 20 ICD-X).
 - ▶ 2.1. Stable angina (indicating the FC I-IV according to the classification of the Canadian Cardiovascular Society), in patients with FC IV angina low voltages can be clinically manifested as angina at rest (code I 20.8 ICD-X).
 - ▶ 2.2. Vasospastic angina (angiospastic, spontaneous, Prinzmetal variant (code I 20.1. ICD-X).
- ▶ 3 Unstable angina (code I 20.0 ICD-X).
 - ▶ 3.1. Angina, which occurred for the first time (the first appearance of life in angina attacks with transient ECG changes at rest to 28 days).
 - ▶ 3.2. Progressive angina.
 - ▶ 3.3. Early post-infarction angina (from 3 to 28 days).



ANGINA FUNCTIONAL CLASS

(Classification of Canadian Cardiovascular Society, 1976.
Recommendations Ukrainian Heart Association, 2011)

FC	Characteristics
I	Usual level of physical activity does not cause attacks angina ": for example, it does not occur during walking, climbing stairs. Angina developed with a significant, rapid or particularly long-term stress (force).
II	"Slight limitation of ordinary activity." angina occurs when walking fast or fast climbing stairs: walking on the rise; walking or climbing stairs after a meal; in cold or windy weather; under emotional stress; or only in the first hours after waking up. angina develops when walking at a distance > 2 blocks (>) on level ground, when climbing > 1 flight of ordinary stairs, at a normal pace, with normally
III	"A significant limitation of ordinary physical activity." Angina occurs when walking 1-2 blocks (<) on a flat areas, with the rise to 1 flight of ordinary stairs, in normal tempo under normal conditions
IV	"The failure to carry any physical activity without discomfort. Anginal symptoms may be present at rest

CLASSIFICATION OF STAGES OF HYPERTENSION

(Recommendations of Ukrainian Heart Association, 2008)

stage	The degree of target organ damage
I	Objective changes in the target organs are absent
II	<p>There is no objective evidence of end-organ damage without symptoms with their hand or dysfunction:</p> <ul style="list-style-type: none"> <input type="checkbox"/> left ventricular hypertrophy (on ECG, ultrasound, Ro); <input type="checkbox"/> generalized narrowing of the retinal arteries; <input type="checkbox"/> microalbuminuria and / or a small increase in the creatinine concentration (γ m. - 115 - 133 mmol / l, γ and. - 107 - 124 mmol / l); <input type="checkbox"/> carotid artery disease - a thickening of the intima-media > or the presence of atherosclerotic plaques
III	<p>There is no objective evidence of end-organ damage with symptoms from their side and dysfunction</p> <ul style="list-style-type: none"> • heart - myocardial infarction, heart failure, II A - III stage; • brain - a stroke, transient ischemic attack, acute hypertensive encephalopathy, vascular dementia; • fundus - hemorrhage and retinal exudates with papilledema the optic nerve or without; • Kidney - creatinine concentration in plasma in men > 133 mmol / l

CLASSIFICATION OF HYPERTENSION by degree (Recommendations of the Association of Cardiologists of Ukraine, 2008)

Category BP	Systolic blood pressure (mm Hg.)	Diastolic blood pressure (mm Hg)
Optimal blood pressure	< 120	< 80
Normal blood pressure	< 130	< 85
High normal blood pressure	130-139	85-89
Mild hypertension (I degree)	140-159	90-99
Moderate hypertension (grade 2)	160-179	100-109
Severe hypertension (grade 3)	> 180	> 100
Isolation systolic hypertension	> 140	> 90

RISK STRATIFICATION IN PATIENTS WITH HYPERTENSION (Recommendations of the Ukrainian Association of Cardiology, 2008)

Other CVRF, TOL, or Established Disease	Blood Pressure, mmHg				
	Normal SBP 120-129 or DBP 80-84	Normal-High SBP 130-139 or DBP 85-89	Grade 1 HT SBP 140-159 or DBP 90-99	Grade 2 HT SBP 160-179 or DBP 100-109	Grade 2 HT SBP ≥180 or DBP ≥110
No Other CVRF	Medium Risk	Medium Risk	Low Added Risk	Moderate Added Risk	High Added Risk
1-2 CVRF	Low Added Risk	Low Added Risk	Moderate Added Risk	Moderate Added Risk	Very High Added Risk
3 or More CVRF, TOL, Diabetes, or Metabolic Syndrome	Moderate Added Risk	High Added Risk	High Added Risk	High Added Risk	Very High Added Risk
Established Cardiovascular or Renal Disease	Very High Added Risk	Very High Added Risk	Very High Added Risk	Very High Added Risk	Very High Added Risk

High additional risk

ATRIAL FLUTTER AND FIBRILLATION CLASSIFICATION

(HRS/EHRA/ECAS Expert Consensus Statement on Catheter and Surgical Ablation of Atrial Fibrillation, 2012; Recommendations of the Ukrainian Association of Cardiology, 2011)

- ▶ For course
 - ▶ Paroxysmal (less than 7 days.)
 - ▶ **Persistent (lasting more than 7 days)**
 - ▶ Constant (there is a long, cardioversion is ineffective or not conducted)
- ▶ As of the AV-holding
 - ▶ **The correct form - regular**
 - ▶ The irregular shape - irregular
- ▶ According to the frequency of ventricular rhythm share:
 - ▶ **Tachycardia option**
 - ▶ Normal cardiac option
 - ▶ bradycardia option



CLINICAL STAGES OF CHRONIC HEART FAILURE (CHF)
(Stragesko N.D., Vasilenko N.H., 1935, Ukrainian Heart Association
Guidelines for diagnosis, treatment and prevention of heart failure, 2013)

stages	clinical manifestations
I	Start, hidden, shown only on exertion as shortness of breath, tachycardia, excessive fatigue, expressed sharper and longer than that of a healthy person. Hemodynamics and organ function is not impaired; reduced ability to work
II	Signs of hemodynamic instability. Metabolic functions of other organs
II A	Failure of the right or left of the heart. Stagnation and dysfunction of other organs are mild and often appear to the end of the day or after exercise (disappear after a night's rest)
II B	Failure of the right and left heart. Stagnation of blood are more pronounced and occur at rest (do not disappear after a night's rest, may be slightly reduced)
III	Of course, the dystrophic heart failure with severe hemodynamic disorders, persistent metabolic and functions of all the organs, development of irreversible changes in the structure of organs and tissues, and disability.

HEART FAILURE FUNCTIONAL CLASSES

(NYHA 1964; Ukrainian Heart Association Guidelines for diagnosis, treatment and prevention of heart failure, 2013)

- ▶ I. There is no limitation of physical activity
- ▶ II. Light limitation of physical activity
- ▶ **III. A significant limitation of physical activity**
- ▶ IV. Inability to perform any physical
- ▶ load without causing shortness of breath



LEFT VENTRICULAR DYSFUNCTION VARIANT IN HF (Recommendations of the Ukrainian Association of Cardiology for the diagnosis, treatment and prevention of heart failure, 2013)

Variants CHF

1st variant. Systolic dysfunction
the left ventricle: ejection fraction less than
40%

2nd variant. Preserved systolic
function: ejection fraction greater than 40%



CHA₂DS₂-VASc score (ESC Guidelines for the management of atrial fibrillation, 2011)

RISK FACTOR	points
Stroke, TIA, or arterial embolism and anamnesis	2
Age > 75 years	2
hypertension	1
Diabetes mellitus	1
Heart failure, left ventricular dysfunction, EF ≤ 40%	1
Vascular disease (myocardial infarction, peripheral atherosclerosis, plaque in the aorta)	1
Age 65-74	1
Gender/ Female	1

- The expected frequency of strokes according to the score in the year:
- 0 1-2%
- 2 4%
- 4 8.5%
- 6 18-27%

HAS-BLED score

(ESC Guidelines for the management of atrial fibrillation, 2011)

RISK FACTOR	points
Arterial hypertension (high SBP)	1
Impaired Hepatic Function: heavy chronic disease or increased bilirubin ≥ 2 times the upper limit of normal in combination with increased AST / ALT ≥ 3 times the upper limit of normal	1
Impaired renal function: creatinine ratio ≥ 200 , dialysis, transplantation	1
Stroke	1
Bleeding history or predisposition to it	1
Labile INR (unstable or high in the therapeutic range less than 60% of the time)	1
Age over 65 years	1
Alcohol abuse	1
Acceptance of others. Drugs that increase the risk of bleeding (NSAIDs, antiplatelet and out.)	1

► Scale of assessment of bleeding: high risk for a sum score ≥ 3

BODY MASS INDEX (WHO, 1997)

$$\text{BMI} = \text{weight (kg)} / \text{height (m}^2\text{)}$$

Body mass deficit	less than 18.5
Normal body mass	18,5-24,9
Excessive body mass	25-29,9
Obesity I degree	30-34,9
Obesity II degree	35-39,9
Obesity III degree	more than 40

Classification of Diabetes Mellitus in severity (WHO, 1995)

- ▶ Easy (I degree) - is characterized by a low level of blood glucose, which is less than 8 mmol / l fasting small daily glycosuria (from trace to 20 g / l). Compensation condition is maintained by dietary intervention
- ▶ At an average (second degree) of gravity - fasting blood glucose increased to 14 mmol / L, blood glucose fluctuations throughout the day, daily glycosuria usually does not exceed 40 g / l, occasionally develops ketosis or ketoacidosis. Diabetes compensation is achieved by diet and oral hypoglycemic agents or insulin administration
- ▶ Severe (III degree) form - characterized by high levels of blood glucose (fasting more than 14 mmol / l), significant fluctuations in blood sugar content during the day, a high level of glycosuria (more than 40-50 g / l). Patients require constant insulin dose of 60 ML and more, they have identified a variety of diabetic angioneuropathy .



CLASSIFICATION OF DIABETES ON THE EXTENT glycemic control (WHO, 1995)

- ▶ Phase compensation - good condition of the patient in whom treatment fails to reach normal levels of sugar in the blood and its complete absence in the urine
- ▶ Phase subcompensation - unable to achieve such good results, but the blood glucose level is not much different from the normal, that is no more than 13.9 mmol / l, and the daily loss of the sugar in the urine is less than '50. Thus acetone in urine is absent
- ▶ Phase decompensation - despite treatment, blood sugar rises more than 13.9 mmol / l and loss of glucose in the urine per night exceeds 50 g, acetone in urine appears. Available
- ▶ hyperglycemic coma

HEALTH FACILITY DIAGNOSIS

- ▶ **Main:** CHD: stable angina FC III. Diffuse atherosclerosis of the coronary arteries. Elyuting stenting of the left anterior descending branch (LAD), diagonal branch (DB), the circumflex branch (CB) (5 stents 2010-2012). Arterial hypertension stage II of III degree. The very high risk. HF I-IIa stage with preserved left ventricular pump function. Paroxysmal atrial fibrillation, atrial flutter, tachysystolic form, frequent supraventricular, rare ventricular premature beats. Atherosclerosis of lower limb arteries. Operation alloshunting of femoropopliteal-tibial segment vessels of the right leg (2008). Type 2 diabetes, secondary insulin-dependent, severe form.
 - ▶ **Related:** lumbalgia due to degenerative disc disease L3-L4, L4-L5, L5-S1, spondylarthrosis, osteoporosis, recurrent, remission stage. Osteoarthritis of the right shoulder, knee joints.
-



CLINICAL DIAGNOSIS 1

► **Main:**

Systemic atherosclerosis (atherosclerosis of the aorta, aortic stenosis, coronary atherosclerosis, atherosclerotic stenosis of the left atrioventricular valve, atherosclerosis of kidney, pelvic arteries and arteries of the lower limbs). Peripheral arterial disease: femoral-popliteal-tibial segment vessels of the right leg (2008), renal artery bypass surgery (2009)

Coronary artery disease: stable exertional angina FC III. Isolated systolic hypertension stage III, soft power. High added risk. Persistent atrial fibrillation, atrial flutter, tachysystolic form. Elyuting stenting of the left anterior descending branch, I diagonal branch of the left coronary artery, the circumflex branch of the left coronary artery (5 stents 2010-2012). HAS-BLED score of 2 points, CHA2DS2-VAS score of 6 points

CHF stage II with preserved left ventricular pump function (ejection fraction = 55%), III FC.



CLINICAL DIAGNOSIS 2

► Comorbid conditions

Phacoemulsification in both eyes, surgery for retinal detachment (2009)

Overweight: BMI = 26.7 kg / m²

Diabetes type 2 second insulin dependent step subcompensation average severity

Irritable bowel syndrome with constipation predominance

Chronic kidney disease stage 3. Chronic pyelonephritis, remission stage. USD

Osteoarthritis, polyosteoarthritis of right shoulder, bilateral gonarthrosis, 0 activity, Ro III. Osteochondrosis of lumbar spine. FJD I stage



DIFFERENCES IN DIAGNOSIS

- ▶ Health facility diagnosis
- ▶ Osteoarthritis of the right shoulder, knee joints
- ▶ The clinical diagnosis
 - ▶ Systemic atherosclerosis (atherosclerosis of the aorta, aortic stenosis, coronary atherosclerosis, arteriosclerosis, stenosis of the left atrioventricular valve atherosclerosis of kidney, pelvic arteries and arteries of the lower limbs)
 - ▶ Isolated systolic hypertension stage III, soft power
 - ▶ Phacoemulsification in both eyes, surgery for retinal detachment
 - ▶ Overweight BMI = 26.7
 - ▶ Irritable bowel syndrome with constipation predominance
 - ▶ Chronic kidney disease stage 3. Chronic pyelonephritis, remission stage. USD



TREATMENT

- ▶ Lifestyle modification
- ▶ Medical intervention



Lifestyle modifications

▶ 1 Change in daily routine

- ▶ The duration of sleep at least 8 hours a day
- ▶ Daytime sleep for 1-2 hours

▶ 2 Control of body weight

- ▶ Weigh at least 1 time per week
- ▶ Weigh an empty stomach before breakfast, in the same clothes, no shoes
- ▶ Record data in the table of self-control.
- ▶ If necessary (as recommended by the attending physician) daily control of the amount you drink and the discharged liquid
- ▶ An increase in the weight of 1 kg per day or 2-2.5 kg for 3-4 days - consultation with doctor



Lifestyle modifications

▶ 3 Diet. Restriction of salt intake

- ▶ Dieting agreed with the doctor: the food is easily digestible, low daily energy value (1400-1500 kcal), eat small portions 4-5 times a day, last meal 3 hours before bedtime, limiting the admission of salt (no more than 2 T / day.), not an additional salt in food
- ▶ Do not hold the salt shaker on the table to determine the amount of salt in the product use instructions on the package and a list of products with information about the salt content
- ▶ Continuously monitor the volume of fluid consumed. At day should drinking from 1.5 to 2 liters of fluid. If necessary (on doctor's advice) is limited to the amount of fluid (up to 800 ml-1 liter per day)



Lifestyle modifications

▶ 4 Nutrition for diabetes

- ▶ The amount of energy in the diet should be equal to the energy needs of the patient.
- ▶ Amount of protein, fat, carbohydrates should be balanced
- ▶ Meal of the day - 5-6 times
- ▶ All foods are divided into three groups:

1 Products that can be used without restrictions. This group includes all vegetables except potato and maize (but made with a minimum of fat) as well as tea, coffee, without the addition of cream and sugar

2 Products that can be consumed in moderate amounts (half of the usual portions - that is, to eat half as much as usual). These products include lean meat, low-fat fish, low-fat dairy products, cheese, less than 30% fat, potatoes, corn, beans, bread, cereals, fruits, eggs

3 Foods that should be excluded from the daily diet. This group includes foods that contain a lot of fat (butter, fatty meat, fish, meats, sausages, leather birds, canned cheese with a fat content of more than 30%, cream, sour cream, mayonnaise, nuts, seeds); sugar and sweets (confectionery, candy, chocolate, jam, jam, honey, soft drinks, ice cream)



Lifestyle modifications

▶ 5 Regular exercise



- ▶ Types of exercise, duration and intensity of the chosen physician, depending on the severity of heart failure, and other factors after the respective test

- ▶ To start the load at a slow pace and increase it gradually

- ▶ Plan for a period of rest before and after exercise to avoid excessive fatigue

- ▶ Do not perform the exercise immediately after a meal, on a full stomach

- ▶ Immediately stop the load when a feeling of fatigue

- ▶ Completion exercise must also be gradual, to bring the body into a state close to the initial



HEALTH FACILITY TREATMENT

- ▶ B-adrenergic blokator- betaksalol (Lokren) 10 mg in the morning
 - ▶ Calcium antagonist, nifedipine (Koridipin retard) 20 mg at night
 - ▶ Antiplatelet agents:
 - ▶ - Acetylsalicylic acid (Aspirin-cardio) 100 mg 1 day;
 - ▶ - Clopidogrel (Plavix) 75 mg in the morning.
 - ▶ Statin-rosuvastatin (Roxera) 20 mg in the evening.
 - ▶ Class III antiarrhythmic drug amiodarone-(Cordarone) 200 mg 2 day.
 - ▶ Antianginal drug, isosorbide mononitrate 50 mg 1 day.
 - ▶ NSAID diclofenac sodium 3 ml / m
 - ▶ Anxiolytic-diazepam (Sibazon) 5 mg at night.
 - ▶ Metabolic means-thioctic acid (Valium) 600 mg / in the cap. №5.
 - ▶ Capillary growth stabilizes tool-quercetin with polyvinylpyrrolidone (Corvitin) 500 mg 1 day.
 - ▶ Nutrient stimulyator- gemoderivat deproteinized calf blood (Actovegin) 5.0 ml / in.
 - ▶ Medications for CVS -Mildrokard 10% 5,0 1 day.
 - ▶ Physiotherapy
-



RECOMMENDED TREATMENT 1

Systemic medication

- ▶ Statins - rosuvastatin 20 mg 1 time per day
- ▶ Antianginal drug - isosorbide mononitrate 50 mg 1 time per day. Nitroglycerin (tablets or spray) for the request
- ▶ ACE inhibitor - ramipril 5 mg in the morning under the control of blood pressure
- ▶ Class III antiarrhythmic drug - amiodarone scheme, under the control of heart rate, heart rate
 - ▶ - SR recovery - 400 mg 3 times / day
 - ▶ - Prevention of paroxysms - under the scheme: 1st week of -600 mg / day, 2nd week - 400 mg / day, 4 weeks - 200 mg / day
 - ▶ - Maintenance dose - 100-200 mg / day
- ▶ Anticoagulant - Warfarin, 5 mg / day according to the scheme; better - Dabigatran - 110 mg 1 p / day or Rivaroxaban - 10 mg p / day
- ▶ Diuretic - torasemide 5 mg under the scheme in the morning before eating
- ▶ insulin
 - ▶ short-acting Actrapid HM
 - ▶ long-acting Lantus
- ▶ According to the scheme in the morning - a short d-I 8 units, long-acting - 12 units
- ▶

 - ▶ dinner - short d-I 8 units
 - ▶ evening - short d-I 8 units, long-acting - 12 units

RECOMMENDED TREATMENT 2

- ▶ Local drug treatment (Nonsteroidal anti-inflammatory drugs- ointment locally)
- ▶ Physiotherapy



DIFFERENCES IN TREATMENT

▶ Health facility treatment

- ▶ B-blocker - betaksalol (Lokren) 10 mg in the morning
- ▶ Calcium antagonist, nifedipine (Koridipin -retard) 20 mg at night
- ▶ antiplatelet agents:
 - ▶ - Acetylsalicylic acid (Aspirin-cardio) 100 mg 1 day RV;
 - ▶ - Clopidogrel (Plavix) 75 mg in the morning
- ▶ NSAID diclofenac sodium 3 ml / m
- ▶ Anxiolytic - diazepam (Sibazon) 5 mg at night.
- ▶ Metabolic means - thioctic acid (Valium) 600 mg / in the cap. №5.
- ▶ Capillary growth stabilizes tool-quercetin with polyvinylpyrrolidone (Corvitin) 500 mg I / cap.
- ▶ Biogenic stimulant - Despres teinizi Rowan gemoderivat calf blood (Actovegin) 5.0 ml / in.
- ▶ Medications for CCC -Mildrokard 10% 5,0 / in.

▶ The recommended treatment

- ▶ Diuretic - Forasemide 5 mg under the scheme in the morning before eating
- ▶ ACE inhibitor - Ramipril 5 mg in the morning under the control of blood pressure
- ▶ Anticoagulant - Warfarin, 5 mg / day according to the scheme; better - Dabigatran - 110 mg 1 p / day or Rivaroxaban - 10 mg p / day



PROGNOSIS

- ▶ Prognosis for life - non-compliance with doctor's appointments - satisfactory
- ▶ The prognosis for recovery - an unfavorable



PREVENTION

- ▶ Secondary:
- ▶ Healthy lifestyle
- ▶ Compliance with doctor's appointments



THANK YOU FOR ATTENTION

