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Кафедра поликлинической терапии

Л.В.Янковская
И.В.Караулько
К.В.Гончар

ПОЛИКЛИНИЧЕСКАЯ ТЕРАПИЯ

Пособие
для студентов 4 курса
факультета иностранных учащихся

L.V. Yankovskaya
I.V. Karaulko
K.V. Hanchar

OUTPATIENT THERAPY

Handbook
for 4th year foreign students

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Авторы: заведующая кафедрой поликлинической терапии, доцент, к.м.н. Л.В. Янковская;
доцент, к.м.н. Караулько И.В.
ассистент кафедры поликлинической терапии К.В. Гончар.

Рецензент: заведующая кафедрой пропедевтики, доцент, к.м.н. Пронько Т.П.

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Пособие содержит необходимый материал для занятий по поликлинической терапии в соответствии с программой для 4 курса. Кроме этого имеются тематические планы занятий, приводится основная и дополнительная литература, лекции по поликлинической терапии для студентов 4 курса, посвященных профилактической работе участкового врача-терапевта и клинике, лечебной тактике при гипертонических кризах на амбулаторном этапе.
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INTRODUCTION

Healthcare system is now being reformed in Belarus, and as result more attention is paid to outpatient medical care, as 75% of patients begins and finishes their therapeutic treatment in polyclinics. Therefore, demand for outpatient training of future physicians is increasing.

Department of outpatient (polyclinic) therapy aims at theoretically training of future doctors to work in outpatient settings as a district physician and a general physician (GP).

Curriculum for outpatient therapy is as follows:

− study of the organization of health care and medical education in a particular organization;

− laying the foundations of clinical thinking and medical ethics on the diagnosis and treatment of diseases of the internal organs, familiarization with the organization of medical and preventive care;

− the development of clinical methods of diagnosis, treatment and prevention of acute bronchitis and pneumonia, acute respiratory infections, tonsillitis, primary and secondary hypertension, ischemic heart disease, chronic gastritis and peptic ulcer disease, the study of issues of health and social assessment, emergency assistance with hypertensive crisis, onset of angina pectoris;

− getting of communication skills: experience of social, organizational and educational work;

− introduction to medical records and reports.

The student should know:

− Basics of general therapeutic disciplines in the amounts necessary for the diagnosis and treatment of major diseases at preadmission stage.

− The district principle of medical care of population.

− Risk factors of major internal diseases.

− Groups of persons going to dispanserization, and its procedure.

− Assessment of the effectiveness of primary and secondary prevention of major internal diseases.

– The principles of diagnosis and treatment of major internal diseases.

– The principles of rehabilitation of patients and disabled people on an outpatient basis.

– Principles of work of rehabilitationdepartment (office).

– Ability to use physical agents, physical therapy in complex treatment and rehabilitation, principles of medical diagnostic equipment work.

– Indications for patient hospitalization in the hospital and referral to day care, the organization of hospital at home.

– Principles of workof prevention department.

– Communication and continuity in the work of health care institutions.

– The criteria for temporary (TD) and permanent disability, the timing of TD, procedure and indications for referral to the Medical rehabilitation expert board (MREB), timing of re-examination, indicated and contraindicated types and working conditions for patients and disabled people.

The student should be able to:

– Perform general examination of the patient.

– Make a preliminary diagnosis, assign survey plan of patient care.

– Estimate total blood count, urinalysis and biochemical blood test of patient.

– Assess the patient's ECG, chest X-ray.

– Set a final diagnosis after the examination and perform the dynamic monitoring of the disease.

– Monitor during the required period of temporary disability, indications for hospitalization.

– Refer promptly the disabled patient to the MREB.

– Conduct a routine inspection and dispanserization of the population.

– Organize and conduct public education of the area.

– Write a diary of ambulatory examination of the patient in the patient card.

LECTURES

for outpatient therapy, the content and volume in hours

№ p/n	Topic and content	Volume in hours
1	District physician's prophylactic work Dispanserization (controlled independent work (CIW) – 0,2 h	1,3
2	Diagnosis and relief of hypertensive crises at preadmission stage (CIW)– 0,2 h	1,3
	TOTAL:	3,0

PRACTICAL LESSON'S TOPICS

№ p/n	Topic and content	Volume in hours
1	*Organization of outpatient therapeutic care in the Republic of Belarus*	*6,0*
1.1	Contents of the district physician's work. Basic outpatient medical records. Active counselling	3,0
1.2	The medical-social expertise in medical institutions. MAC functions. The concept of the MREC	3,0
2	*Diseases of the respiratory system*	*12,0*
2.1	Acute respiratory infections (influenza and other viral respiratory infections), acute tonsillitis (angina). Diagnosis, treatment, medical tactics, medical-social examination. Active counseling of acute tonsillitis (angina)	6,0
2.2	Acute bronchitis and pneumonia. Outpatient aspects of diagnosis and treatment, medical tactics, medical-social examination, active counseling, primary prevention.	6,0
3	*Cardiovascular diseases.*	*12,0*
3.1	Ischemic (coronary) heart disease: outpatient aspects of diagnosis of various forms of ischemic heart disease, medical tactics, medical-social examination, active counseling, primary prevention. Treatment of angina pectoris. Emergency care for angina attack on an outpatient basis.	6,0

№ p/n	Topic and content	Volume in hours
3.2	Primary and secondary hypertension, somatoform autonomic dysfunction (neurovegetative dystonia, cardiopsychoneurosis). Outpatient aspects of diagnosis and treatment, medical tactics, medical-social examination, active counseling, primary prevention.	6,0
4	*Diseases of the digestive system*	*10,0*
4.2	Chronic gastritis, peptic ulcer and duodenal ulcer. Outpatient aspects of diagnosis and treatment, medical tactics, medical-social examination, active counseling, primary prevention. First aid for acute abdominal pain and suspected gastrointestinal bleeding.	5,0
4.3	Chronic cholecystitis, biliary functional disorders, chronic pancreatitis. Outpatient aspects of diagnosis and treatment, medical tactics, examination of temporary disability, clinical examination, primary prevention. Urgent care in hepatic colic.	5,0
	TOTAL:	40,0

LECTURES

Topic 1. District physician's prophylactic work. Primary and secondary prevention (dispanserization).

XX – beginning of XXI century is the era of non-infectious diseases, which reduce life expectancy and worsen demographic situation in a great extent. Their share in the structure of the total mortality of the Republic of Belarus in 2007 amounted to 77,3%. The causes of most diseases are well known: smoking, lack of exercise, unbalanced diet, alcohol, stress, ecological trouble.

Experience in developed countries shows that the increase in life expectancy of the population wasnot reached by improving the quality of treatment, but by reducing the incidence by primary prevention.

PRIMARY PROPHYLAXIS of non-infectious diseases (PPNID) is a set of measures aimed to reduce the adverse health effects and causes of the disease, increased positively influencing factors. Success can only be a comprehensive medical, social and environmental prevention, providing for the implementation of the health system, by society and the State. PPNID technologies consist of the formation of risk groups, screening, consulting on lifestyle, integrated measures to prevent diseases, integration of the various services and agencies involved in PPNID, vaccination and chemoprophylaxis, health monitoring, health promotion, responsibility for the health of the individual.

In the activities of doctors of any specialty PPNID is a very important factor.

Doctor's preventive work includes *primary prevention*, aimed at the prevention of disease and early diagnosis, in which a special role is played by preventive examinations, as well as *secondary prevention* of relapse of present chronic diseases (dispanserization).

In PPNID medical check-upsare also important, the main purpose of this activity is to assess the state of health, regarding the possible work in certain industries. These preventive medical examinations are important for the further dynamic surveillance of workers, as well as to revealconnection of the disease emerged with

the profession.

The main objective of prophylactic examinations:

- Assessment of health status.
- Deciding on the possibility to work in certain industries.
- The dynamic monitoring of workers.
- The question of connection of the disease with the profession.

The main purpose of prophylactic examinations:

- Early detection of early signs of alleged diseases.
- The dynamic monitoring of the health of persons exposed to the influence of unfavorable factors of production.
- Identification of disease, adverse occurring under the influence of adverse factors of production.
- Development of recommendations aimed at improving the working conditions.
- Elimination or significant reduction in the impact of unfavorable factors of production.
- Conducting individual therapeutic measures.

The role of district physician in PPNID: district physician (workshop physician) is actively engaged in primary prevention, which involves a set of measures aimed at the prevention of the fact of the disease, as well as secondary prevention, i.e. early detection and treatment of an existing illness.

Objectives of outpatient service

- Identification of risk factors in the population served, to register annually.
- Implementation of measures for the prevention and correction of risk factors, especially among those with high levels of its development.
- Actively identify patients with clinical manifestations of the disease, and their follow-up, long-term treatment, including correction of risk factors.

Risk Factors.

RF–characteristics of the subject and the environment which can be associated with the probability of coronary heart disease, cardiovascular and other non-infectious disease in this person. Using the concept of risk factors, doctor can predict the development of the

disease.

Primary risk factors – factors directly reflecting the adverse effects on human health (unbalanced diet, smoking, alcohol, lack of exercise).

Secondary risk factors – diseases and pathological syndromes, leading to the development of major non-infectious diseases (i.e. hypercholesterolemia, hypertension, diabetes).

Smoking – a risk factor for several diseases

«After a nuclear war, famine and plague, the greatest threat to human health is smoking».

On average, a heavy smoker shortens his life by 7 years. Each cigarette consumption is estimated to reduce life by 14 minutes. In Belarus mortality from diseases caused by smoking rose, life expectancy in the age group 35–69 years was reduced by 21 years.

In all age groups, the risk of death from coronary heart disease (ischemic heart disease) is directly dependent on the number of cigarettes smoked daily. Mortality from coronary heart disease in men younger than 45 years with more than 25 cigarettes smoked daily is 15 times higher than among non-smoking men of the same age. Particularly high risk with regard to morbidity and mortality from cardiovascular disease is common for smoking young women, using oral contraceptives containing estrogen for prolonged period. IHD occurs in them 10 times more often.

Comparison of the results of coronary angiography with the intensity of smoking revealed that:

- Smoking 1,5 cigarettes per day has no visible changes in the coronary vessels.
- Smoking 2 cigarettes strucks one coronary artery;
- Smoking2,5 cigarettes affects two arteries
- Smokingmore than 4 cigarettes affects three arteries.

Smoking is an obligate risk factor in the occurrence of chronic obstructive pulmonary disease (COPD). Smoking intensity is of particular importance in COPD diagnosing. It is calculatedwith the following formula: number of cigarettes smoked per day divided by 20 and multiplied by the number of years of smoking. If the result is more than 10 there is a reliable risk factor for COPD.

When combined with other risk factors adverse effects of cigarettes are significantly enhanced. Hypercholesterolemia or arterial hypertension increase risk of IHD about two-fold in male smokers.

Accumulated data currently indicate that cigarette consumption is accompanied by certain changes in the lipid composition of the blood, which are regarded as atherogenic (increasing concentrations of all three major lipid components: total cholesterol, LDL, triglycerides).

The effect of smoking on the functional activity of platelets and the coagulation and fibrinolytic state of the blood system is established. Cigarette smoking increases platelet aggregation and thereby contributes to the formation of microagregants in the bloodstream; stimulate the release a number of biologically active substances from platelet (thromboxane A2, serotonin, platelet-derived growth factor). Platelet derived growth factor is particularly important in atherogenesis, which has the ability to stimulate the migration of smooth muscle cells in the subendothelial space of the vascular wall, the capture of lipoproteins, intracellular synthesis of cholesterol and its esterification processes.

Nicotine is a powerful stimulant of sympathetic ganglia and adrenal medulla, it enhances the release of catecholamines in the bloodstream, which, along with the hemodynamic shifts, can activate platelets and blood coagulation. Nicotine stimulates the secretion of corticosteroids, anti-diuretic hormone, has arrhythmogenic properties. To some extent this may explain the increased risk of sudden death and the development of acute myocardial infarction in chronic smokers.

It must be remembered that smoking can distort the pharmacological effect of many drugs, such as the appointment of propranolol while smoking is not reduced, but, on the contrary, increase in diastolic pressure.

Influence of passive smoking on the frequency of angina attacks is proved. In women who have a spouse-smoker, the risk of getting lung cancer is 30% higher than that of women whose husbands did not smoke.

Besides the fact that smoking is the most common among the

working population cardiovascular risk factors, in smokers, according to WHO, most developing not only heart disease, but also cancer (cancer of the lung, bladder), bronchopulmonary disease, and peptic ulcer disease.

According to WHO, if the people of the globe will stop smoking, deaths from diseases could be reduced by 19%.

Ministry of Health of the Republic of Belarus issued an order № 603 from 28.12.2000. «On the prohibition of smoking in health care facilities and educational institutions».

Thus, smoking cessation is one of the priorities of district physician.

Lack of exercise.

The rapid development of technology, automation, transportation, television has reduced physical activity, and outputting not only in people's mental, but also in those of physical labor. Physical activity has decreased not only at work but also at home, with negative impact on the cardiovascular, respiratory, metabolic, etc.

According to the Framingham prospective study of the risk of death from coronary heart disease in physically inactive is 3 times higher than for people with an active lifestyle. The risk of sudden death in patients who have regularly physical exercises at 59% less than those for the sedentary.

Physical inactivity – 5 hours daily in a sitting position and in less than 10 hours a week of exercise

Physical activity is an important preventive measure to prevent the adverse effects of a sedentary lifestyle (obesity, hypertension, cardio-vascular diseases, metabolic disorders).

Prevention of inactivity

– Increased physical activity in the form of graduated exercise at least 2 times a week for 30 minutes at a fast pace (120 steps per minute).

– Physical exercise, aerobic cyclical nature (walking, jogging, swimming, morning exercise).

Local doctor – therapist must determine the motor mode each sample based on its professional activity (at work, at home, at weekends and on public holidays, etc.). This will properly organized – Vat motor mode, its correction in the dynamics.

Obesity.

Obesity is recognized by WHO infectious epidemic of our time because of its high prevalence in the population at high risk of cardio – vascular disease, early disability and premature mortality.

Over the past 20 years, the prevalence of obesity has increased by almost 3 times. The number of people suffering from obesity increases progressively every 10 years by 10%.

According to WHO, more than 1 billion people worldwide are overweight. Obesity has become a social problem in countries with a high economic standard of living. Approximately one in five people in these countries are obese.

Obesity is associated with coronary heart disease, hypertension, diabetes mellitus, cholelithiasis, osteoarthritis and gout.

It is known that excess body weight increases the risk of coronary heart disease by 1,3–3,2 times (with an increase in body weight by 30% – to 2-fold).

Mortality from coronary heart disease in people with overweight was 1.7 times higher than those with normal weight.

District physician, takes a proactive identification of individuals with excess weight, must know the normal values of body mass index (BMI), which can be determined by Quetelet index (QI). It is calculated by the formula: body weight in kg/height in m^2.

According to the WHO classification (1997), in the whole range of variations of the QI in adults are 4 levels:

Body mass index (Quetelet index)

- less than 18,5 kg/m^2 are underweight;
- 18,5–24,9 kg/m^2 – normal weight;
- 25–29,9 kg/m^2 – overweight;
- 30 kg/m^2 or more – obesity.

Especially dangerous is the central type of obesity with predominant deposition of fat in the abdominal region. Frequent combination of visceral obesity, disorders of carbohydrate and lipid metabolism, breathing disorders during sleep and hypertension, and there is a close connection between the pathogenic was the basis for selection of an independent syndrome – «metabolic». Isolation of MS is of great clinical importance, because on the one hand, this condition

is reversible, ie with appropriate treatment can achieve extinction, or at least reduce the severity of its main manifestations, and on the other hand, it is preceded by the emergence of diseases such as type 2 diabetes and atherosclerosis – the diseases that are the major causes of increased mortality.

Abdominal type of obesity can be identified by the characteristic redistribution of body fat. This android type of obesity, with a primary deposition of fat in the abdomen and upper body (type «apple»), as opposed to genoidnogo (type «pear») with the deposition of fat in the hips and buttocks. A number of studies have found a direct proportional relationship between body weight and total mortality.

Type of obesity can be determined by using an index waist/hip (IWH)

− waist circumference (WC) – the smallest circumference measured below the rib cage on the navel;

− hip circumference (HC) – measured at the level of the greater trochanter of the femur.

IWH = WC / HC:

− 0,8-0,9 – intermediate type of fat distribution;

− less than 0,8 – genoid type (thigh buttock);

− more than 0,9 – android type (abdominal).

Combating Obesity

− A set of dietary recommendations (compliance energy daily caloric intake).

− A balanced diet (protein – 15% of total calories – 90–95 g, fat 35% – 80–100 g, carbohydrates – 50% 300–350 g).

− Supply at least 4–5 times a day, for the last 2–3 hours before bedtime.

− Limit energy intake to 1800–1900 kcal/day.

− Fasting days 1–2 times a week.

Obesity with hypercholesterolemia

− Do not use more than 3 egg yolks a week, including egg yolks, used for cooking;

− Less eat offal (liver, kidney);

− Limit consumption of all types of sausages, fatty ham, butter and ghee, oil-rich milk and milk products;

− When cooking – deep frying in animal fats replace quenching, boiling, steaming, in the oven;

− Prefer fish dishes, seafood, prepared in the vegetable oil;

− Use low-fat varieties of dairy products, eat more vegetables and fruits.

Alcohol – a risk factor for somatic diseases.

Chronic alcohol abuse can cause serious damage to the hormonal regulation of the state system of the human body. Alcohol impairs the function of hormonal regulation of blood pressure and fluid and electrolyte balance, affecting the blood levels of two hormones – vasopressin and atrial natriuretic peptide. These violations persisted during periods of abstinence for at least 9 months after giving up alcohol.

It is now established that the heart disease of alcoholism – alcoholic cardiomyopathy, alcoholic heart disease – WHO classification is an independent nosological form. Convincingly shown that the frequent reception of significant amounts of alcohol contributes to both increase the frequency of lesions of the cardiovascular system, and worsen the severity of their flow.

Alcohol affects the liver (cirrhosis of the liver, alcoholic hepatitis), nervous system (toxic encephalopathy), pancreas (acute and chronic pancreatitis) improves blood pressure and disturbance of water and electrolyte balance, affects the heart (alcoholic cardiomyopathy), kidneys (glomerulonephritis alcoholic), promotes the development of cancer of the esophagus, pharynx and larynx.

Chronic alcohol intoxication accompanied by deficiency of antioxidants (vitamins A, E, folic acid, zinc, selenium), which is also a complex mechanism of carcinogenesis. Even small doses of alcoholic beverages increase the risk of developing prostate cancer by 87%.

60 to 80% of cancers can be prevented by healthy lifestyle, adequate diet, regular consumption of fruits and vegetables.

Pay attention to markers of chronic alcohol intoxication, which can be determined objectively. These markers include the characteristic appearance with facial flushing, skin capillary network expansion, coated tongue, liver enlargement, tremor of the fingers, polyneuropathy, parotid glands, muscle atrophy, venous engorgement of the conjunctiva, Dupuytren's contracture, gynecomastia, transient

hypertension, and finally , the change of weight – as its deficit and obesity. As markers of alcohol intoxication also use the following laboratory parameters: increase in blood gammaglutamyltranspeptidase, aspartate aminotransferase, and alkaline phosphatase.

Arterial hypertension.

Arterial hypertension (AH) in their socio-medical significance is one of the major health challenges.

In industrialized countries, hypertension affects about 15% of the adult population. According to the Ministry of Health, there were 1,5 million patients with hypertension in 2010 in Belarus, and in the structure of mortality rank first complications of cardiovascular disease (myocardial infarction, cerebral infarction, heart failure).

The problem is of great social significance, since AG is one of the causes of persistent disability. Successful control of hypertension and prognosis of the disease depends largely on how early and correct diagnosis, and on the necessary organization and the effectiveness of treatment of patients in the clinic.

PREVENTION OF ARTERIAL HYPERTENSION

Identifying people with risk factors for hypertension:

Exogenous:

- long and frequent psycho-emotional surge;
- cranial trauma and concussions;
- migrated in the past kidney disease;
- smoking;
- alcohol abuse;
- high salt intake;
- over-nutrition, especially for those prone to obesity;
- lack of exercise;
- different industrial RF's.

Endogenous:

- genetic predisposition;
- personality traits that appear in childhood and adolescence;
- psycho-emotional lability with pronounced sympathoadrenal responses to small stimuli;
- vegetative dystonia;
- pregnancy;

- menopause and menopause in women;
- reduced gonadal function in men;
- the endocrine system;
- person's age.

Diagnosis of hypertension

According to the WHO/ISH in adults of both sexes of all ages for the AG to take an increased blood pressure > 140/90 mm Hg. Art., revealed by repeated measurements during the visit 2–3 times a therapist.

Lower blood pressure 130–139 and 85–89 mm Hg. Art.considered normal.

Requirements for follow-up and treatment of patients with hypertension are set out in the order № 225 of 03.09.2001 year.

The goal of primary prevention, elimination or attenuation of the negative effects of risk factors for hypertension, the prevention or slowing of disease.

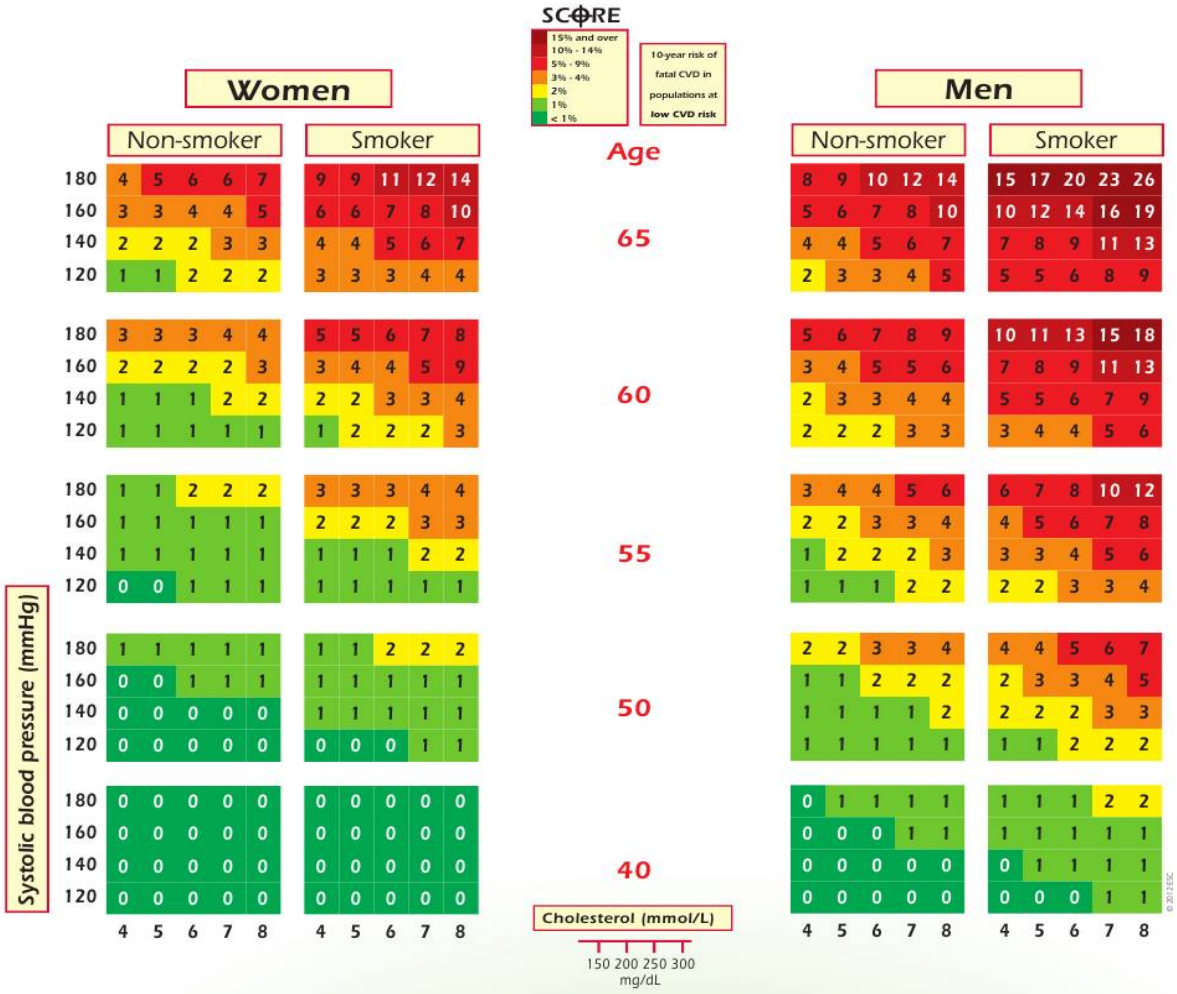
Risk factors for ischemic (coronary) heart disease.

Ischemic (coronary) heart disease (IHD) remains the dominant both in prevalence and in mortality in our country and in most developed countries.

Success in reducing morbidity and mortality from cardiovascular disease is largely dependent on the effectiveness of primary prevention of coronary heart disease, in particular, the correct approach to the determination of individuals who require urgent preventive actions. Modern preventive cardiology is based on the concept of risk factors.

To assess the overall risk of system is recommended SCORE (Systematic Coronary Risk Evaluation – a systematic assessment of coronary risk) (see table 1). It has been prepared on the basis of large prospective European studies and predicts the risk of death from atherosclerosis in 10 years. Risk assessment involves the examination of the following risk factors: gender, age, smoking, systolic blood pressure and total cholesterol or the ratio of cholesterol/HDL cholesterol. The criterion of high risk is the probability of death from cardiovascular disease ≥ 5% (instead of ≥ 20% for the total risk of coronary events, as before).

Table 1 - SCORE



In assessing the amount of risk for the sex of SCORE model, age, smoking status, blood pressure and total cholesterol value.For Russia in SCORE low risk corresponds to the probability of dying within the next 10 years <5%, the average risk – 5–9%, high – 10–14% and a very high risk of ≥ 15%. Special attention is required, patients with a high risk of CVD.

Patients with high and very high risk:

- SBP ≥ 180 mm Hg. Art. and/or diastolic blood pressure 110 mm Hg. Art.
- SBP > 160 mm Hg. Art. low DBP (< 70 mm Hg. cent.)
- Diabetes
- Metabolic syndrome
- ≥ 3 risk factors
- Target organ damage:

- LVH on ECG or Echocardiography
- Ultrasonic signs of carotid thickening (IMT > 0,9 mm or atherosclerotic plaque)
- Increase the stiffness of the arterial wall
- A moderate increase in serum creatinine
- Reduction of SFK or creatinine clearance
- Microalbuminuria or proteinuria
- Associated clinical conditions

The most important are the two groups of risk factors for coronary heart disease (K.S.Ternovoy et al.)

1. Socio-cultural (exogenous.)

2. Internal (endogenous).

Socio-cultural risk factors include:

1. Excessive consumption of high calorie, rich in carbohydrate, saturated fat and cholesterol foods.
2. Lack of exercise.
3. Psycho-emotional overload.
4. Smoking, alcoholism.
5. Prolonged use of oral contraceptives (for women).

The internal (endogenous) risk factors are:

1. Hypertension.
2. Increased lipids.
3. Breach of tolerance to carbohydrates.
4. Obesity.
5. Hyperuricemia.
6. The metabolism of electrolytes and trace elements.
7. Hypothyroidism.
8. Cholelithiasis.
9. Personality and behavior.
10. Heredity.
11. Age, gender factors.

Success in reducing morbidity and mortality from cardiovascular disease is largely dependent on the effectiveness of primary prevention of CHD.

Risk factors for coronary artery disease are also increasing LDL, triglycerides, hereditary (genetic) predisposition to disease.

Hypertension increases the risk of coronary heart disease in 1–6 times, particularly dangerous, as the cardiovascular risk factors, is a hypertension in young adults.

District physician must carefully collect family history, to clarify who was sick of the relatives of angina, myocardial infarction, hypertension, diabetes, find out whether there was a family history of sudden death at the age of 50–60 years.

It is known that men with cholesterol levels in the blood plasma of 6,5 to 7,0 mmol increases the risk of CHD, and more than that of men with cholesterol levels up to 4,4 mmol/l.

Cholesterol in the range 5,2–6,2 is the level at which the physician should determine the tactics of further management of the patient. If there is no clinic, no signs of coronary artery disease, it is important the presence of other risk factors. If other than that of cholesterol, there are two other factors that should be put on the question of lipid-lowering agents (male + hypertension, male gender, smoking +). If there is a clinical CHD, only one risk factor to start active treatment with antilipemic drugs.

Risk factors for non-specific lung disease (NLD). Basic principles of primary prevention of nonspecific pulmonary diseases

Risk factors for non-specific lung diseases

Exogenous factors:

− Smoking.

− Injuries and deformities of the chest.

− Adverse weather conditions (temperature fluctuation of the environment, humidity, etc.).

− Adverse operating conditions (dust, fumes, exposure to harmful gases and toxic chemicals).

Endogenous factors:

− Frequent or long flowing respiratory infections (ARI three or more times a year, or 14–20 days 2–3 times a year).

− The presence of foci of chronic infection in the body (especially in the paranasal sinuses, nasopharynx, and upper respiratory tract).

− Transferred pulmonary tuberculosis.

− Moved acute pneumonia (at least 2 times).

− Hereditary predisposition (the presence of the patient or his relatives of pulmonary tuberculosis, asthma, cystic fibrosis, etc.).

The high degree of danger NLD determined when a person has five or more risk factors, or 3 significant risk factors such as smoking, the presence of foci of chronic infection, myocardial tuberculosis.

Average degree of danger – if patient has 2–3 RF.

Minimum degree of danger if patient has one RF.

All persons who have identified risk factors, it is necessary to conduct a comprehensive examination for early detection of the active form of the disease. Most important influence on the emergence and development of NLD leading place belongs to age, sex, illness, acute pneumonia, acute bronchitis, acute respiratory infections and flu, duration and intensity of smoking, hard physical labor, chronic comorbidities of throat and meteorological factors.

The main work on the identification and prevention of NLD by district phisician and plant therapist.

Thus, the main elements of primary prevention of NLD – combating dust and gas jobs in industry and agriculture, and the promotion of healthy lifestyles, hardening of the body and physical therapy, management of employment and vocational guidance, proper treatment of acute respiratory illness (ARI, acute bronchitis and acute pneumonia). These measures should be implemented comprehensively.

Risk factors for diseases of the digestive system

The prevention of diseases of the digestive system provides active detection of healthy individuals at increased risk of disorders of the digestive system

Risk factors:

1. Family history.
2. Functional disorders of the mucous membrane of the stomach and duodenum in the bull and acid-secretory function.
3. Frequent stressful situations.
4. Poor nutrition, excessive spices, coffee and alcohol.

The primary prevention are important population screening, with good methodological approach is to survey.

Predisease can be defined as the unrealized risk of disease which is caused by external factors and lower adaptive capacity of the organism.

Secondary prevention (active counseling).

It is a set of health interventions aimed at early detection and

treatment of existing diseases. It provides for the use of specific measures taken by the medical institutions in the prevention of progression of existing diseases, their early detection, to effective treatment and rehabilitation.

The goal of secondary prevention – to prevent the possibility of exacerbation or complications of emerging diseases, i.e. slow the progression of diseases.

Secondary prevention provides for medical examination of the adult population of the Republic of Belarus. Organization of follow-up are set by the Ministry of Health of Belarus decree № 51 dated June 1, 2011.

Clinical supervision of the adult population of Belarus is a system of medical interventions aimed at detecting diseases or factors that affect their appearance, to assess the health of every citizen of the Republic of Belarus, which includes:

- clinical examination;
- dynamic monitoring of the health during active counseling;
- promoting healthy lifestyles and raise interest in and responsibility for their health.

Citizens of the Republic of Belarus have the right to pass inspection and dispensary when medically remain under medical supervision in a dynamic health care organizations that provide outpatient care for adults.

Dispensary examination is performed in a volume of studies identified for each age group of adults. Results of follow-examination recorded in the medical outpatient (Form 025/y), follow-up card account.

In view of the results of laboratory, clinical and instrumental investigations and to plan the necessary medical measures physician office (cabinet) Prevention Health Organization defines a citizen belonging to the group dynamic dispensary observation:

D (I) – healthy citizens, without complaints about the state of health, which at the time of follow-examination revealed no acute or chronic dysfunction of individual organs and body systems, as well as having the slight variations in health status (no tendency to progression) which have no effect on the ability to work.

D (II) – almost healthy citizens with a history of risk factors for chronic diseases, acute illnesses, which can lead to chronic disease process (including frequent or long-term sick persons (hereinafter – FLSP) – Citizens are often (6 or more once a year) or long term (more than 40 days a year in total) suffer acute diseases, as well as individuals with chronic diseases in remission without dysfunction of organs and body systems).

D (III) – patients with chronic diseases with impaired function of organs and systems of the body and (or) periodic exacerbations.

D (IV) of follow-up – patients with a disability.

In each group, the dynamic dispensary observation should be considered citizens with risk factors for certain diseases or exacerbation of existing chronic disease.

Citizens serving in the dispensary group D (I), there is clinical examination at least 1 time in two years.

Dispensary dynamic monitoring of citizens, consisting of dispensary group D (II-III), conducted primarily by disease (state), to the greatest extent determined by the quality of his life, and is performed to the extent necessary to control the disease.

Multiplicity outpatient follow-up and the volume of the survey, including the appointment of additional medical examinations of medical specialists, diagnostic tools and laboratory tests are determined by the attending physician performing outpatient follow-up, taking into account the degree of functional impairment, the frequency of relapses (exacerbations), according to the Decree of the Ministry of Health of Belarus № 51 dated June 1, 2011.

Topic 2*:* Diagnosis and relief of hypertensive crises at preadmission stage.

According to the Russian National Scientific-Practical Society ambulance for the last 3 years in the whole of the Russian Federation, the number of medical emergencies at the hypertensive crises (HC) and the number of admissions has increased by an average of 1,5. Willingness to continuous therapy in patients with a diagnosis of arterial hypertension (AH) is not more than 33% (according to a survey of patients), so we can predict the development of HC,

especially in noncompliance patients. HC is the most predictive of adverse AH: 25–40% of patients undergoing complicated HC die within the next 3 years from kidney failure (Grade A) or stroke (grade B). This risk increases with age (grade A), with essential hypertension (grade A), with increased serum creatinine (A level), and serum urea above 10 mmol/l (grade B), with a longer duration of AH (grade B), the presence of 2 and 4-degree hypertensive retinopathy (grade C), in 3,2% of patients develop renal failure requiring dialysis (grade B). Because of this, HC refers to the manifestations AH determining mortality from its complications. All the above points to the need timely and accurate arrest HC at preadmission stage and doctors to form a clear view of the use of drugs for emergency aid to the sudden increase in blood pressure (BP).

Defining HC: a sudden rise in BP by 20–25% and 10–15% of systolic/diastolic individually to high values at the minimum of subjective and objective symptoms treated as uncomplicated HC. Of dangerous or violent manifestations with subjective and objective evidence of cerebral, cardiovascular and autonomic disorders called complicated HC.

Predisposing factors of HC include: frequent stressful situations, alcohol, the abolition of antihypertensive therapy, intense exercise, on the eve of receiving large amounts of water and salty foods, drinking lots of coffee, heavy smoking, excessive mental strain from lack of sleep, eating cheeses containing tyramine (cheddar, etc.), the sharp fluctuations in the atmospheric pressure, treatment with glucocorticoids, nonsteroidal anti-inflammatory drugs, etc. These factors are the background for the development of AH, exacerbate its course. Some of them, as well as several others, may be the direct cause of the HC, including in patient compliance: an acute psycho-emotional trauma (the loss of a significant loved, etc.), acute physical stress, acute alcohol load, the use of sympathomimetics (cocaine and etc.), a severe allergic reaction, intercurrent respiratory tract infection (acute or arisen to join, provoke exacerbation of a chronic process), acute urinary retention, severe head trauma, extensive burns of the skin, surgical stress, and others. In response to the irregular antihypertensive therapy (often with promiscuous receive β-blockers

and clonidine) can occur so-called «rebound crises» that cropped hard and often accompanied by complications.

As predisposing and precipitating factors of HC drive the pathogenetic mechanisms of HC: there is hyperactivation of the sympathetic nervous system, which is accompanied by the release of norepinephrine, which raises the tone of the arteries and arterioles. The endothelium is a large auto-and paracrine organ, responsible increase production of thromboxane and endothelin (potent vasoconstrictor factors), as well as decreased production of nitric oxide and prostacyclin (vasodilators). Hypothalamus increases the secretion of vasopressin, which causes spasm of the arteries and arterioles. The body is an acute sodium and water retention, increasing the tone of the arterioles, which leads to an increase in total peripheral resistance. Activation of the renin-angiotensin-II-aldosterone system and the calcium mechanism of smooth muscle cells of arteries and arterioles to the development of spasm, also leads to an increase in total peripheral resistance. Thus, the launch of two pathogenic mechanisms – vascular and cardiac.

Currently, there are several classifications of the HC, but the most commonly used is based on the clinical classification of A.L.Myasnikov, N.A.Ratner, 1968, with the release of crises I and II (Tabl. 2).

Table 2 – Clinical classification HC of A.L.Myasnikov, N.A.Ratner

Crises of the type I (hyperkinetic or adrenal)	Crises of the type II (hypokinetic or norepinephrine)
– headache, dizziness, nausea; – excited, hand tremor, throbbing and shaking all over the body; – palpitations; – red spots on the skin, sweating, excessive urination at the end of the crisis; – increased blood coagulation; – leukocytosis in peripheral blood; – increase in blood glucose; – increase mainly SBP, increased heart rate, increased SI, MO,	– intense headaches, often with vomiting, dizziness; – visual disturbances (blurred, fog, flashing «flies»); – condition of stupor; – parastezia throughout the body; – pain in the heart; – possible transient paresis; – increased blood coagulation; – leukocytosis in peripheral blood; – normal blood glucose; – increase mainly DBP, bradycardia,

Crises of the type I (hyperkinetic or adrenal)	Crises of the type II (hypokinetic or norepinephrine)
ND; – the duration of a crisis from several minutes to several hours; – no complications.	increased SVR; – the duration of a crisis from a few hours to several days; – complications.

Hypertensive emergencies can be defined as severe elevations of BP in the presence of acute target organ damage. Acute coronary syndromes, dissecting aortic aneurisms, acute pulmonary oedema, hypertensive encephalopathy, acute cerebral infarction, intracerebral haemorrhage, or acute arterial bleeding or eclampsia represent clinical conditions in which an immediate blood pressure reduction is needed to prevent the progression of target-organ damage (TOD) (Tabl. 3).

Table 3– Hypertensive emergencies

Hypertensive encephalopathy
Severe hypertension associated to acute target organ damage: – acute coronary syndromes – pulmonary oedema – acute aortic dissection – intracerebral haemorrhage, subarachnoid haemorrhage acute brain infarction – acute or rapidly progressing renal failure
Severe hypertension after thrombolysis for ischaemic stroke
Pheochromocytoma crisis
Guillain-Barré syndrome
Spinal cord injury
Drugs related hypertension (sympathomimetics. cocaine, phencyclidine, phenylpropanolamine, lysergic acid diethylamide, cyclosporine, antihypertensive treatment withdrawal, interaction with MAO inhibitors)
Eclampsia
Postoperative bleeding
Post coronary artery bypass hypertension

Hypertensive urgencies are characterised by severe elevations in BP (> 180/120 mm Hg) without evidence of acute TOD. In hypertensive urgencies BP can usually be reduced in the emergency department

(ED) by orally administered drugs without hospital admission and with ambulatory follow-up.

Initial evaluation

Appropriate triage of patients is a crucial part of the initial evaluation. After a complete history (with particular attention paid to pre-existing hypertension and TOD) and an accurate physical examination (including fundoscopic examination), selected laboratory studies such as urinalysis, creatinine, urea, electrolytes, and a full blood count should be performed. When a secondary form of hypertension is suspected a sample for plasma renin activity, aldosterone, and catecholamines should also be drawn. It is advisable to obtain in each patient an electrocardiogram and a chest radiogram (Tabl. 4).

Table 4– Diagnostic workup

Repeated blood pressure measurements (first measurements at both arms)
Clinical history and physical examination: – cardiovascular – CNS – fundus oculi
Selected laboratory studies: – urinalysis, creatinine, urea, electrolytes, and a full blood count – when a secondary form of hypertension is suspected, a sample for plasma renin activity, aldosterone, and eventually catecholamines should also be drawn
Electrocardiography
Chest X rays
Further investigations (according to the clinical presentation): echocardiography – brain ct scan or MRI – abdominal ultrasonography – thoraco-abdominal ct scan or MRI – vascular ultrasound

In elderly patients the clinical course of the HC has its own characteristics: the gradual development of clinical symptoms (rise for a few hours), prolonged or recurrent, persistent headache often

accompanied by severe dizziness, nausea, and vomiting. Drowsiness, confusion, stupor, and transient paresis and sensory disturbances.Older not typical expressed vegetative reactions. They have a high risk of complications, including fatal (stroke, myocardial infarction, aortic dissection, etc.).

Treatment of uncomplicated HC crisis should start with the drugs under the tongue or inside. Antihypertensive drugs for oral use in the HC are presented in Table 5.

As an aid in the HC to improve regional hemodynamics dibazol can be used at a dose of 30–40 mg (3–4 ml of a 1% solution intramuscularly (i/m)). Its hypotensive effect is due to a decrease in cardiac output and peripheral vascular expansion due to its antispasmodic action. With intravenous (i/v) administration the onset of action in 10–15 minutes, with a/m – 30–40 minutes.The duration of action of up to 12 hours. Side effects may be paradoxical increases in blood pressure, and sometimes excessive sweating, hot flashes, dizziness, headache, nausea, and allergic reactions. Contraindications: severe heart failure, hypersensitivity to the drug.

Table 5 – Antihypertensive drugs for oral use in the HC

Drug	Dosage	Start a nd duration of action	Side effects and contraindications.	Note
Anaprilin (propranol ol, Inderal)	10, 20, 40 mgsublin g-vally	5–30 min, 4–6 hours	Side effects: bronchospasm, bradycardia. Contraindications: AV-block II and III degree, SA block, bradycardia (heart rate less than 55 bpm/Min), SSS, chronic heart failure IIB–III stages, acute heart failure	The dosage depends on the severity of tachy-cardia and BP levels
Captopril	25, 50 mg sublingu	5–10 min, 4–6 hours	Side effects: angioneurotic edema, dry cough.	Not shown in pregnancy,

Drug	Dosage	Start a nd duration of action	Side effects and contraindications.	Note
	ally, if necessar y, again on 25mg every 30–60 minu-tes		Contraindications: bilateral renal artery stenosis, the state after a kidney transplant, hemody-namically significant aortic stenosis, left AV holes, hypertrophic cardiomyopathy	including eclampsia during pregnancy
Moxonidine	0,4 mg	20–30 min	Contraindications: AV-block II and III degree, SA block, bradycardia (heart rate less than 55 bpm/Min), SSS, chronic heart failure IIB–III stages, ACS	
Nifedipine	10, 20 mg sublingu ally, if necessar y, again after 30 minu-tes	5–30 min, 4–6 hours	Side effects: flushing of the skin of face and neck, tachycar-dia, drowsiness, headache, dizziness. Contraindications: the syndrome of «tachy-brady», acute coronary insufficien-cy, severe heart fai-lure, hemodynamica-lly significant aortic stenosis, hypertrophic cardiomyopathy, acute ischemic stroke	Application is shown in the absence of significant tachycardia. Effectiveness of nifedipine increases in elderly, so the initial dose of the drug in the treatment should be minimal

Treatment of hypertensive emergencies

Patients should be admitted to an intensive care unit for clinical

surveillance and continuous BP monitoring. Aggressive treatment with parenteral drugs is the preferred approach; in the majority of cases, however, the initial goal should be a partial reduction (and not normalisation) of BP, with a reduction in BP of no more than 20–25% within the first minutes and up to one on two hours, with possible cautious further decreases in subsequent hours. In most hypertensive emergencies a rapid lowering of BP is beneficial, with the exception of cerebrovascular accidents, in which it is advisable to take a more cautious approach. An excessive reduction of BP values is potentially dangerous, possibly leading to ischaemic complications such as acute myocardial infarction and stroke.

Several parenteral agents are available for the treatment of hypertensive emergencies (Tabl. 6); the choice of first-line antihypertensive agents should be tailored to the patient's clinical status. Nitroprusside is a highly effective short-acting arteriolar and venous dilator, which can be used in most hypertensive emergencies. In patients with primary intracerebral haemorrhage caution is needed because of the potential antiplatelet effect and intracranial pressure increase. The risk of cyanate toxicity is greater when the drug is used for long periods (days) or in patients with hepatic or renal dysfunction. With nitroprusside, BP should be continuously monitored intraarterially; hypotension can, however, be managed in most cases by discontinuing the infusion.

Table 6 – Drugs for hypertensive emergencies

Drug	Dose	Onset	Duration	Adverse effects
Sodium nitroprussiate	0,25–10 μg/kg/min	Immediate	1–2 min	Hypotension, vomiting, cyanate toxicity
Labetalol	20–80 mg bolus 1–2 mg/min infusion	5–10 min	2–6 h	Nausea, vomiting, heart block, bronchospasm
Glyceryl trinitrate	5–100μg/min	1–3 min	5–15 min	Headache, vomiting
Enalaprilat	1,25–5,00 mg bolus	15 min	4–6 h	Hypotension, renal failure, angioedema

Drug	Dose	Onset	Duration	Adverse effects
Furosemide	40–60 mg	5 min	2 h	Hypotension
Fenoldopam	0,1–0,61μg/kg/min	5–10 min	10–15min	Hypotension, headache
Nicardipine	2–10mg/h	5–10 min	2–4 h	Reflex tachycardia, flushing
Hydralazine	10–20 mg bolus	10 min	2–6 h	Reflex tachycardia
Phentolamine	5–10 mg/min	1–2 min	3–5 min	Reflex tachycardia
Urapidil	25–50 mg bolus	3–4 min	8–12 h	Sedation

Nitroglycerin is a venous and, to a lesser degree, arteriolar dilator, particularly indicated in acute coronary syndromes and pulmonary oedema. ***Labetalol*** is an alpha- and beta-adrenergic blocker, which can be given as an intravenous bolus or infusion; it is highly effective and is indicated in most hypertensive emergencies, in particular in aortic dissection and in acute coronary syndromes. It may be given also after cocaine or amphetamine use, which may induce transient but significant hypertension leading to stroke and/or serious cardiac damage. ***Urapidil***, an alpha-blocker with additional actions in the central nervous system (it activates 5-HT1 A receptors), has also been found effective since it induces vasodilatation without tachycardia. Finally, it must be remembered that ***furosemide*** can be particularly indicated when volume overload is present, as in left ventricular failure. In the presence of volume depletion, in contrast, diuretics could cause additional reflex vasoconstriction and should therefore be avoided.

Specific hypertensive emergencies

In patients with *acute coronary syndromes* a severe elevation of BP values is not uncommon; on the other hand, myocardial ischaemia may also be in duced by acute elevations in BP in patients without haemodynamically relevant coronary artery disease through an increase in left ventricular wall stress and myocardial oxygen consumption. In this setting intravenous vasodilators, such as nitroglycerin and nitroprusside, should be the initial drugs, in combination with a beta-blocker (labetalol, metoprolol, esmolol, or

atenolol), which may further decrease Bp and reduce heart rate and, consequently, myocardial oxygen consumption. In the presence of ***acute left ventricular failure*** BP should be rapidly controlled. The preferred drugs are intravenous nitroglycerin or nitroprusside in combination with loops diuretics for volume overload control. In patients with ***aortic dissection*** and hypertension BP control is crucial. The treatment should be started immediately and systolic BP rapidly reduced to less than 100 mm Hg; the ideal drug should not only allow the reduction of BP but also reduce heart rate and cardiac contractility with the aim of reducing stress on the aortic wall. This can be achieved with a combination of a beta-blocker and a vasodilator, such as nitroprusside or nitroglycerin, administered intravenously. ***Pheochromocytoma crises*** can be managed with an intravenous alpha-bjocker such as phentolamine, followed by concomitant infusion of a beta-blocker; nitroprusside may also be added. Beta-blockers should always be associated with alpha-blockers in patients with pheochromocytoma since inhibition of beta-receptor-induced vasodilation may lead to a further increase in BP values in the presence of alpha-adrenergic vasoconstriction. Simultaneous alpha- and beta-blockade may also be achieved with monotherapy with labetalol. In patients with ***acute stroke*** the use of antihypertensive therapy is still controversial. Autoregulation of blood flow is impaired in ischaemic areas of the brain, and BP reduction may further reduce flow in the ischaemic penumbra and further expand the size of the infarction. It seems reasonable to recommend the institution of antihypertensive treatment only in the presence of BP values above 220/120 mm Hg (or mean BP > 140 mm Hg) in ischaemic stroke and to obtain an initial reduction of BP values of about 10–15%. Treatment may be initiated with intravenous labetalol, and, if needed, with nitroprusside or nitroglycerin. In patients with acute stroke treated with thrombolysis BP should be kept below 185/110 mm Hg. In primary ***intracerebral haemorrhage***, treatment should be started if BP values are greater than 180/105 mm Hg. For less marked elevations of blood pressure the available data do not support the initiation of antihypertensive treatment in the early phases of stroke.

In fact, after the promising results of the ACCESS study (342 patients with acute stroke), more recently, the SCAST study showed no evidence of a beneficial effect of careful blood pressure lowering treatment with an angiotensin-receptor blocker in more than 2000 patients with acute ischaemic (85%) or haemorrhagic (14%) stroke and a mean blood pressure of 171/90 mm Hg. These results are further reinforced by those of a meta-analysis performed by the same authors, including more than 3600 patients, which confirmed the lack of benefit of BP lowering in acute stroke and mild to moderate elevations in BP. For haemorrhagic stroke, in the recently published INTERACT study, in which 404 patients with intracerebral haemorrhage and systolic BP between 150 and 220 mm Hg, underwent early intensive BP-lowering treatment, a significant reduction in haematoma growth over 72 hours was observed in actively treated patients. The ongoing main study (INTERACT2) will assess the effect of early intensive BP-lowering on functional outcome on a larger sample of patients (2800). Therefore, while awaiting the results of the ongoing studies, routine BP lowering in the acute phase of stroke in patients with mild to moderate elevations in blood pressure does not appear advisable. ***Acute postoperative hypertension*** is not uncommon, particularly after cardiothoracic, vascular, head and neck, and neurosurgical procedures. For most non-cardiac types of surgery there is no agreement on BP thresholds for treatment, and the patient's baseline BP, type of surgical procedure, and associated clinical conditions should be taken into account in patient management. It seems reasonable to maintain blood pressure within 20% of preoperative arterial pressure. For cardiothoracic surgery there is more evidence of an increased risk associated with a postoperative increase in BP values, which should be kept below 140/90 mm Hg. Labetalol (and other beta-blockers), nitroprusside, nitroglycerin, or fenoldopam should be the preferred intravenous drugs for BP control.

Treatment of hypertensive urgencies

In the majority of patients with severe hypertension no signs of acute TOD are usually observed. In these patients BP should be lowered gradually over a period of 24–48 hours; this can often be

achieved by orally administered drugs without hospital admission and with close ambulatory follow-up. Clinical surveillance is advisable during the first few hours after drug administration. Blood pressure lowering should be gradual: there is no proven benefit from a rapid reduction in BP in asymptomatic patients who have no evidence of acute TOD, and a precipitous fall in BP could do more harm than good. In Tabl. 5 recommended oral agents for hypertensive urgencies are reported. An initial approach with a combination of antihypertensive drugs increases the likelihood of effective BP reduction. The degree of BP reduction induced by sublingual nifedipine can neither be predicted nor controlled and this preparation is not recommended.

Magnesium sulfate at a dose of 1000–2500 mg (5–20 ml of a 20% solution) / slow (for 7–10 minutes or more), and if you cannot provide the i/v a product is acceptable (as an exception) i/m administration of the drug in the form of heat, followed by heating of the injection site, as i/m introduction painful and fraught with the development of complications, the most unpleasant of which the formation of infiltrates buttocks. Magnesium sulfate has a vasodilator, sedative and anticonvulsant effect lowers blood pressure and reduces the intracerebral brain swelling. Its use is particularly indicated for HC, followed by the development of seizures (eg, eclampsia of pregnancy), as well as the appearance of ventricular arrhythmias in the background of an increase in blood pressure. Hypotensive effect develops within 15–25 minutes after administration. Side effects: respiratory depression (eliminated on / in the 5-10 mL of 10% calcium chloride solution), bradycardia, atrioventricular block II degree. Contraindications: hypersensitivity, male, bradycardia, AV block II degree.

With HC with severe autonomic and emotional coloring (optional panic attack) better sublingual use propranolol (20 mg), or captopril (25–50 mg) in conjunction with sedatives – diazepam 0,5% – 1–2 ml/m.

When HC by discontinuing clonidine contra β-AB. In patients with addiction to clonidine letter is used sublingually in a dose 0,075–

0,15 mg repeated every hour (to the clinical effect, or up to a total dose of 0,6 mg). Limits the use of clonidine poor predictability of the effect (regardless of the dose of the drug, in addition to collapse, perhaps even increase blood pressure by the initial stimulation of peripheral β-AP) and the likelihood of side effects.

Tactics of district physician for further case management

− Correction of predisposing factors or directly cause the HC.

− Correction of antihypertensive therapy.

− Self-monitoring of blood pressure patient at least three times a day in the next few days to stabilize the blood pressure numbers.

− Survey patient.

PRACTICAL LESSONS (topic's plan)

LESSON № 1. Organization of outpatient medical care in Republic of Belarus. Organization of dispanserization. Medico-social examination in medical organizations.

Aim of lesson:

1) to acquaint with organization of preadmission stage medical care, structure of polyclinic, modern abilities of diagnostic and treatment of diseases at preadmission stage, organization of active counseling of adult citizens of Republic of Belarus;

2) to acquaint with main principles of medico-social examination of temporal and stable disability, order of direction to MREC.

Questions:

1. Polyclinic – the main link of primal medical care. Polyclinic structure, its main departments functions.
2. District general medicine care organization. District general physician's rights and duties.
3. Coordination of district general physician work with other doctors, doctors of hospitals and ambulance care.
4. District general physician main documentation. Main criteria of district general physician work.
5. Modern abilities of diagnostic and treatment in polyclinic.
6. Main principles of medico-social examination (MSE).
7. Disability, its types.

8. Main principles of temporal disability (TD) examination.
9. Organization of TD examination, TD terms and documentation.
10. Patients with prolonged or often sickness, peculiarity of examination.
11. MAC (medical-advisory commission): stuff and functions.
12. Main principles of stable disability examination. Structure and functions of medical rehabilitation expertise commission (MREC).
13. Direction of patients at MREC. Necessary documents for direction to MREC.
14. Criteria of determination of group of invalidity.
15. Main paragraphs of the law of Republic of Belarus «About prevention and rehabilitation of invalids».

References:

1. Oxford handbook of general practice [Text] / Simon Chantal [et al.]. - 4th ed. - Oxford : Oxford university press, reprinted 2015.
2. Documentations forms for lesson topic registered in Belarus (in the department).

LESSON № 2. Acute respiratory infections (flu and other acute respiratory viral infections (ARVI)), acute tonsillitis. Diagnostics, treatment, tactics, medico-social examination of ARVI and acute tonsillitis. Dispanserization in case of acute tonsillitis.

Questions:

1. Acute respiratory infections (grippe, ARVI).
1.1. Etiology, pathophysiology, epidemiology of acute respiratory infections.
1.2. Clinical features of different ARVI and grippe. Complications of grippe.
1.3. Diagnosis and differential diagnosis ARVI and grippe. Indications for hospitalization.
1.4. Treatment and prophylaxis of ARVI and grippe.
2. Acute tonsillitis in district general physician practice.
2.1. Etiology, pathophysiology, classification of acute tonsillitis.

2.2. Clinical features, different types of acute tonsillitis.

2.3. Instrumental and laboratory methods of examination of patient.

2.4. Differential diagnosis of acute tonsillitis.

2.5. Treatment of acute tonsillitis.

2.6. Temporal disability to work, active counseling, prophylaxis of acute tonsillitis.

References:

1. Harrison's Manual of Medicine [Text] / editors: Dan L. Longo [et al.]. - 18th ed. - New York [etc.] : McGraw-Hill, Medical, 2013.

2. Oxford handbook of general practice [Text] / Simon Chantal [et al.]. - 4th ed. - Oxford : Oxford university press, reprinted 2015.

LESSON № 3 Acute bronchitis and pneumonia. Diagnostics, treatment, tactics, medico-social examination, dispanserization, primal prevention at preadmission stage.

Aim of lesson: to teach students to diagnose and treat acute bronchitis and pneumonia at preadmission stage, to know indications for hospitalization.

Questions:

1. Definitions of terms «acute bronchitis» and «pneumonia», etiology and definition of these diseases.
2. Plan of examination of patient with acute bronchitis or pneumonia at preadmission stage.
3. Diagnosis formulating, indications for hospitalization.
4. Treatment of the above at preadmission stage.
5. Indications for therapy with antibiotics of acute bronchitis.
6. Complications of acute bronchitis and pneumonia.
7. Medico-social examination of acute bronchitis and pneumonia.
8. Active counseling and rehabilitation of patients after acute bronchitis and pneumonia.

References:

1. Harrison's Manual of Medicine [Text] / editors: Dan L. Longo

[et al.]. - 18th ed. - New York [etc.] : McGraw-Hill, Medical, 2013.
2. Oxford handbook of general practice [Text] / Simon Chantal [et al.]. - 4th ed. - Oxford : Oxford university press, reprinted 2015.
3. General Propedeutics of Internal Diseases: lecture course / VSMU, 2006.

LESSON № 4. Ischemic heart disease (IHD): diagnostics, treatment, tactics, medico-social examination, dispanserization, primal prevention of different types of IHD at preadmission stage. Treatment of angina pectoris. Urgent treatment of unstable angina at preadmission stage.

Aim of lesson: to learn students of diagnosis and treatment of IHD at preadmission stage, to know indications for hospitalization.

Questions:

1. Classification of IHD.
2. Classification and clinical features of angina pectoris. ECG diagnosis, functional tests. Laboratory diagnosis.
3. Differential diagnosis of diseases with chest pain (diseases of heart, lung and chest pain)
4. Treatment of angina pectoris.
5. Urgent treatment of unstable angina at preadmission stage.
6. Active counseling of patients with angina pectoris.

References:

1. Harrison's Manual of Medicine [Text] / editors: Dan L. Longo [et al.]. - 18th ed. - New York [etc.] : McGraw-Hill, Medical, 2013.
2. Oxford handbook of general practice [Text] / Simon Chantal [et al.]. - 4th ed. - Oxford : Oxford university press, reprinted 2015.
3. General Propedeutics of Internal Diseases: lecture course / VSMU, 2006.
4. Bushma K.M. Intensive Care Medicine: short textbook for English-speaking students – Grodno: GrSMU, 2010.

LESSON № 5. Primary (essential) and secondary hypertension, somatoform dysfunction of autonomic nervous

system (neurovegetative dystonia). Diagnosis, treatment, tactics, medico-social examination, dispanserization, primal prevention at preadmission stage.

Aim of lesson: to teach students of diagnosis, aspects of treatment, active counseling, examination of disability to work, prevention in patients with arterial hypertension at preadmission stage.

Questions:

1. Classification of arterial hypertension (ESH 2011); stratification of risk factors.
2. Differential diagnosis of arterial hypertension.
3. District general physician tactics in case of revealing of patient with arterial hypertension.
4. Aspects of treatment of patients with arterial hypertension at preadmission stage.
5. Algorithm of treatment of arterial hypertension in patients with additional pathology, in pregnant women.
6. Classification of symptomatic hypertensions.
7. Conception somatoform dysfunction of autonomic nervous system (neurovegetative dystonia).
8. Aspects of medico-social examination, active counseling, rehabilitation, treatment in sanatoriums and resorts, primal prevention of arterial hypertension at preadmission stage.

References:

1. Harrison's Manual of Medicine [Text] / editors: Dan L. Longo [et al.]. - 18th ed. - New York [etc.] : McGraw-Hill, Medical, 2013.
2. Oxford handbook of general practice [Text] / Simon Chantal [et al.]. - 4th ed. - Oxford : Oxford university press, reprinted 2015.
3. General Propedeutics of Internal Diseases: lecture course/ VSMU, 2006.

LESSON № 6 Chronic gastritis, peptic ulcer of stomach and duodenum. Diagnosis, treatment, tactics, medico-social examination, dispanserization, primal prevention at preadmission stage. Urgent care in case of acute abdominal pain and probable gastrointestinal bleeding.

Aim of lesson: to teach students of diagnosis, differential diagnosis and tactics in case of functional dyspepsia, chronic gastritis and peptic ulcer diseases of stomach and duodenum.

Questions

1. Classification and clinical features of chronic gastritis.
2. Classification and clinical features of peptic ulcer diseases of stomach and duodenum.
3. Aspects of diagnosis, treatment, tactics, medico-social examination, active counseling, primal prevention of the above-mentioned diseases at preadmission stage.
4. Differential diagnosis of diseases with acute abdominal pain (onset of cholecystolithiasis or pancreatitis).
5. Urgent care in case of acute abdominal pain and probable gastrointestinal bleeding.

References:

1. Harrison's Manual of Medicine [Text] / editors: Dan L. Longo [et al.]. - 18th ed. - New York [etc.] : McGraw-Hill, Medical, 2013.
2. Oxford handbook of general practice [Text] / Simon Chantal [et al.]. - 4th ed. - Oxford : Oxford university press, reprinted 2015.
3. General Propedeutics of Internal Diseases: lecture course / VSMU, 2006.
4. Bushma K.M. Intensive Care Medicine: short textbook for English-speaking students – Grodno: GrSMU, 2010.

LESSON№ 7. Chronic cholecystitis, biliary functional disorders, chronic pancreatitis. Outpatient aspects of diagnosis and treatment, medical tactics, examination of temporary disability, dispanserization, primary prevention.Urgent care in hepatic colic.

Aim of lesson: to teach students of diagnosis, differential diagnosis and tactics in case of chronic cholecystitis, biliary functional disorders, chronic pancreatitis.

Questions

1. Biliary functional disorders: diagnosis and treatment, medical tactics, examination of temporary disability, clinical examination, primary prevention.
2. Chronic cholecystitis diagnosis and treatment, medical tactics, examination of temporary disability, clinical examination, primary prevention.
3. Chronic pancreatitis diagnosis and treatment, medical tactics, examination of temporary disability, clinical examination, primary prevention.
4. Urgent care in hepatic colic.

References:

1. Harrison's Manual of Medicine [Text] / editors: Dan L. Longo [et al.]. - 18th ed. - New York [etc.] : McGraw-Hill, Medical, 2013.
2. Oxford handbook of general practice [Text] / Simon Chantal [et al.]. - 4th ed. - Oxford : Oxford university press, reprinted 2015.
3. General Propedeutics of Internal Diseases: lecture course / VSMU, 2006.
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CONTENT OF PRACTICAL LESSONS

LESSON № 1.The content of district physician's work. Basic outpatient medical records. Dispanserization.

Currently, the leading element of our health care is outpatient care. It is known that most of the patients of therapeutic treatment begins and ends in the clinic. Is restructuring the hospital structure, a gradual transition to work on the principle of a general practitioner. The central figure is primary care physician, endowed with certain knowledge on related subjects, that is, it can function as a general practitioner.

The arrangement of the entire health-prevention clinic laid territorial principle ie district medical care to people living on a fixed area or shop principle in industry, construction companies, etc. This principle ensures the continuity of observation of patients by the same physician, can actively engage in the early detection of patients, provides comprehensive preventive measures, effective clinical examination, to know the conditions of life, work, etc. At present, a gradual transition to work on the principle of a general practitioner («GP»). Many scientists believe that the general practitioner and family physician is not the same thing. General physician – a specialist in wide-oriented basic medical specialties and the ability to provide a multi-disciplinary outpatient care for common diseases and emergency conditions. Family doctor – a doctor, specially trained to provide a multi-disciplinary primary health care to family members, regardless of gender and age. International instruments GP and family therapist treated as identical concepts. Experts from different countries have agreed to write a general practitioner (GP) in a fraction family doctor (GP/FD), as long as their functions can not be divided and they are as common whole.

The main sections of the district physician's work:

- providing skilled therapeutic care to outpatient and home care;
- organization and implementation of preventive measures in the population area, clinical examination;
- medical-social examination, participation in the WCC,

registration sheets at MREC messengers;

− referrals to health care institutions, the sanatorium-treated chickens;

− sanitary and anti-epidemic work;

− public education;

− analysis of the incidence area, activity analysis, reporting.

District physician in his work is directly subordinate head of therapy department, and in his absence – deputy chief physician of polyclinic. District physician submits district nurse.

The district physician must provide:

− timely therapeutic assistance to the population area in the clinic and at home;

− emergency medical care to patients, regardless of their place of residence ¬ properties in case of direct communication in the event of acute state ¬ tions, injuries, poisoning;

− timely hospitalization of medical patients with a mandatory preliminary examination, routine hospitalization;

− counseling patients where necessary in the clinic and other academic rezhdeniyah health;

− use in their work of modern methods of prevention, diagnosis and treatment, including the treatment and rehabilitation treatment (medications, diet, exercise therapy, massage, physical therapy, etc.);

− examination of temporary disability of patients;

− Organize and necessary steps on clinical examination of the adult population area (identification, to take account of, dynamic monitoring, health and recreational activities) in accordance with the list of entities that are subject to dispensary observation by a district physician, the analysis of the effectiveness and quality of clinical examination;

− renditions residents of the site undergoing medical inspection and departing abroad;

− organize and conduct vaccinations and deworming population area;

− early detection, immediate alarm head of therapeutic department (and in his absence - the head of the agency), and the doctor-infectionist of all cases of infectious disease or an infection-suspision patients about food and professional poisoning, and all cases

of failure mode and antiepidemic requirements infectious patients, leaves for home treatment. Referral to the appropriate center of hygiene and epidemiology emergency notification;

− systematic improvement of their skills and knowledge of themselves and nurse;

− active and systematic health education among the public area, the fight against bad habits and training of public active persons of district;

− spends identifying people with risk factors for AIDS, their registration and examination in accordance with standing orders and instructions;

− actively seeks persons suspected of drug addiction, toxins abuse and alcoholism;

− observe the principle in their work ethics;

− profile magazine or medical passport section is the documentment, which helps district physician purposefully organize and estimate the entire treatment and preventive work. Medical passport may contain the following information:

- a site plan indicating the number of storeys of buildings, the number of apartments, the location of schools, kindergartens, etc.;
- a list of a variety of industrial and other facilities with the number of employees;
- demographic data, description of the age and sex composition of the population in the area, the number of teenagers taken from the children's clinics;
- the main quarterly performance (a measure of outpatient admission, patient care at home, the percentage of active visits, etc.);
- information on infectious diseases;
- information on the incidence (measured at reported cases of diseases, quarterly, on separate nosological groups specified in the form № 271 IU/y, from the acute disease accounted for influenza, tonsillitis, acute pneumonia, acute respiratory infections;
- the size and movement of dispensary patients;
- list and accounting examinations disabled World War II veterans;
- the list of disabled workers;
- a list of personal pensioners;

- a list of frequently and chronically ill persons;
- a list of patients with acute myocardial infarction;
- The list of cancer patients;
- a list of patients who are registered in a tuberculosis dispensary;
- information on training physicians, health nurses. Very important data on the establishment of immune segment of the population (data on vaccination against specific diseases).

Thus, the passport section contains the information necessary for organization of the district physician. This information shall be entered in the passport systematically and analyzed quarterly.

To identify shortcomings in the practice is justified reports of local doctors to the population.

Analysis of the district physician work.

The work of local therapist evaluated integrated, fulfillment of volume indicators included in the program of the territorial state guarantees:

- outpatient care (number of visits);
- visits at home;
- The use of day care at outpatient clinics;
- hospitals at home.

According to these indicators are calculated targets for each district physician/GP. In addition, the activities of the district physician evaluated for results model outcomes (RMO). Model outcomes include indicators of health, activity, as well as indicators of defects such as mortality, morbidity laborable population, primary disability, including the working-age population, the rehabilitation of persons with disabilities full and partial, also recorded the incidence of acute intestinal infections, detection of patients with active tuberculosis, hospitalization rates, uptake on the ambulance calls to the chronically ill in the hours of the clinic, hospital admissions, extrabudgetary activities (provision of paid services). The indicators included in the RMO defects – to identify patients in the terminal stage of cancer (IV degr.), Identification of patients with visual forms of breast cancer (III–IV degr.), the identification of patients in advanced stages of tuberculosis, founded complaints.

Evaluation of the district physician, therapist therapy department head is held up for the quarter (year) on the basis of accounting quality and quantity of his work, his observance of the fundamental requirements of the official documents, the rules of labor discipline, moral, ethical, social activity.

The district physician is responsible for both poor quality work and missteps, and for inaction and failure to take decisions that are in the scope of its responsibilities and competence, in accordance with applicable law.

Important section of the local therapist is accepting patients. Per patient is given 12 min., i.e. per hour it should take 5 people, and when visiting the home has 30 minutes per patient. This small time requires a doctor's high professional competence, ability to quickly understand the particular clinical situation, to identify therapeutic tactics, to decide on the need for hospitalization.

In many cases, patients of therapeutic need urgent or planned hospitalization. With the planned hospitalization, the necessary lab tests.Having determined the need for examination of the patient, the local doctor and gives direction to the hospital, where the diagnosis other than specified purpose hospitalization and conducted laboratory and instrumental investigations. In the stationary necessarily directed «health card» outpatient or detailed statement of her showing all conducted laboratory and instrumental studies. This will lead to more rapid diagnosis and early initiation of a therapy, reduce the length of stay in hospital. At the end of hospitalization patient card with an extract from the case is transferred to a polyclinic to a district physician. Such continuity in the work of the district physician allows him to organize in the future care of patients.

Heavy, weak and febrile patients local doctor serving at home. Visiting the sick divisional therapist is required on the day of the call. Physician based on the clinical condition of the patient and decide on the need for an emergency at home or hospital patient, or organization hospital at home. Primary care physician assigns therapy and the question of disability the patient. Follow-up visits are made on the initiative of the patient and the doctor, depending on the severity of

patient.

During outpatient visits or home visits primary care physician can diagnose or suspect an infection, which requires prompt and timely diagnosis due to the fact that it represented it possible risks to the patient, and for others. That may occur such infectious diseases as dysentery, acute viral hepatitis, diphtheria, influenza, SARS, AIDS, etc. Therefore, primary care physician must not only know exactly clinic of these diseases, but also be able to collect detailed epidemiological history. This will determine the right tactics and early appropriate therapy. Primary care physician should know under what infections in hospitalized patient profile department of infectious hospital and under what can be treated outside the hospital (influenza, SARS). Suspected infectious disease, primary care physician reported by telephone to the Center for Hygiene and Epidemiology, fills emergency notification (Form 058/y) and provides information on detection of infectious disease head of therapeutic department and infectious diseases physicians. If the patient is hospitalized, it is isolated from the others, which explains the primary care physician measures prevention of disease and establishes the dynamic monitoring of contacting persons, during the incubation period.

The basis is an outpatient medical record (F № 025 – 4/y). It should contain:

− Part of a fully completed passport with address, date of the verification of registration with a list registretor, if the patient codes category of benefits, job and career, marking dispensary patient;

− A detailed history of the patient's life with the first application for the War veterans – military history, medical history at baseline and followed up by taking the complement of medical history at every appearance new nosology, or disability;

− Information about the annual parallel examinations z-ray and gynecological cancer research, the measurement of blood pressure, the presence of vaccination;

− List the diagnosis with the introduction of all completed cases;

− Clearly defined records of outpatient visits (if necessary substantiating the diagnosis, indications for hospitalization, etc.);

− Based objective status and functional diagnosis of medical prascribtion;

− The results of additional tests;

− Plans for the dispensary observation of patients and annual epicrisis marked clinical examination of the effectiveness of the signed heads of departments, as well as the execution of an individual program of rehabilitation;

− The level of preferential discharge prescriptions with details №;

− Extract from the history of the disease (in the case of in-patient treatment);

− Records should include the date and signature of the examination of the patient doctor who periodically checked and signed by the Head. department, according to the approved quality system;

− Circulated list of risk factors.

In the practice of district physicians are guided by the provisions of the Order № 3 MHC from 8.01.2003 «On approval of the testimony of hospitalization in health care organizations».

Indications for hospitalization:

− a serious condition and the threat of deterioration;

− the need for intensive care and constant supervision of medical personnel;

− the complexity of the diagnosis in the outpatient setting.

If the patient does not require immediate hospitalization, the diagnostically uncertain, patients should be advised at home by head of therapeutic department. Primary care physician if necessary arrange laboratory research at home, ECG recording at home, consultation of «specialists», organise hospitals at home.

Examination of disability is one of the leading participants of district phisician. Primary care physician is assessing temporary disability and if necessary, identify signs of a disability. In the practice he enjoys resolution MOH and Ministry of Labor and Social Protection of Belarus № 89\84 of 29 August 2011 «On Approval of the Procedure for Issuing and sick leave certificates of temporary disability is not» and the ruling MOH number 61 of 12 August 2002 «On approval of the instruction by the definition of disability and instructions determine the cause of disability».

Primary care physician should strictly follow the basic provisions of these documents, as unjustified refusal and issuance of a medical certificate or inexperienced Ravdan early discharge to work

can lead to chronic disease course tion and premature disability. To determine whether a disability is very important competent design direction to MREC.

«Referral to MREC» (form № 088/y) is filled after direct consultation of the patient to the local office of the MAC and the MAC decision corresponding solutions.

Examination of temporary disability.

Temporary disability (BH) – the inability of the employee duties or contraindications to work due to medical reasons (acute illness (trauma), crises, exacerbation (decompensation), chronic diseases, a survey, a spa treatment and medical rehabilitation), and social factors as established by the applicable legislation (care for a sick family member, a healthy child up to three years and a child – invalid, quarantine, prosthetics in the hospital, maternity leave).

Control over the status of work on the examination of the temporary incapacity, accuracy and validity of issuing leaflets disability in health care organizations, is, above all, the main doctors (leaders) of health organizations.

In the event of the issuance, processing and storage of a disability sheets and certificates workers of Health Organization attract to disciplinary and administrative responsibility, and if their actions showed signs of crime, they are subject to criminal responsibility of in accordance with applicable law.

Documents certifying the TD and the rules for their registration.

Main document certifying temporary exemption employees from work is a sheet of disability (SD), which serves several important functions:

- *Medical* – make the person to whom it is issued, the presence of disease or injury which led to the TD;
- *Legal* – provides the right (complete or partial) exemption from work the person to whom it is issued for a period specified in the sick leave;
- *Financial* – is the basis for the payment of benefits TD;
- *Statistical* – is the primary statistical document for registration and study of morbidity.

The procedure for issuing and registration of sick leave (SD) and

certificates of temporary disability, BH identity, pregnancy and childbirth, and supporting a temporary exemption from the civil work, study, service and other work due to medical reasons, and social factors stipulated by the current legislation property governed by the Decree of Ministry of Health of Belarus and the Ministry of Labor and Social Protection of the Republic of Belarus from 29.08.2011 g. Number 89/84 «On amendments and additions to the Regulation on the procedure of issuing sheet of disability and disability certificates of temporary disability № 52/97 of 07.09.2002».

In outpatient treatment physician gives a piece of disability after a personal examination of the patient on the day of the establishment of temporary disability (including weekends and public holidays, the day of discharge, during the holiday season – labor, social) alone within 6 days a lump sum or in installments if you want more frequent monitoring of patients.

Extension of certificate of incapacity for more than six calendar days, held on the last day of leave from work by the attending physician with department head or chairman of the WCC deputy chief medical officer, chief physician after a personal examination of the patient by these persons.

Remember that in obscure in diagnostic or treatment plan, as well as in conflict cases, the doctor has the right to represent the patients head of department in any term TD.

Leaf extended disability lump together these doctors for a period of not more than 10 calendar days, for a total of no more than 30 calendar days.

The further extension of certificate of incapacity (over 30 days) is solved WCC Health Organization.

A general practitioner, physician district hospital (ambulance) if he works alone, has the right to grant sick leave for outpatient and inpatient treatment alone for the duration of the temporary loss of disability, but not more than 14 consecutive days in one case of temporary disability.

Extension of sick leave for up to 30 calendar days is decided after consultation with the specialist health of the parent organization, and for more than 30 days – MAC of Health Organization.

You need to know!

In the treatment in terms of anonymity and confidentiality disability sheet is issued.

We remind you that the issue of the identity BH, must be justified by medical reasons, so the medical card doctor to specify the criteria for HV, determine the optimal location for further examination and treatment of the patient (specialized or general therapeutic department of the hospital, hospital at home, day care clinics), The possibility and feasibility of outpatient treatment, issue a document certifying the HV (medical certificate or a certificate) for the required period of time and set the date for the next appearance of the patient at the reception.

To assess the patient's ability to work, timing of treatment and rehabilitation are important nature and conditions of professional activity.

For example, in similar clinical situations Time on sick leave with SARS will be more patient, working on a construction site than a patient with armchair working conditions, but the teacher (the seller, cashier) with symptoms of acute pharyngitis who require more intensive and prolonged rehabilitation , especially given the profession and the need for voice mode than working with the worst conditions. Sick leave shall be issued upon presentation of a passport or foreign identity document patient Health Organization on residence place, and in the presence of departmental organizations of Health also at the place of work, study, service, or at the place of fixing the patient for medical care.

Important! Leaf number and series of disability, with the term of HV and date of the next appearance should always be recorded in the patient's medical card.

In the case of treatment-seeking patients, temporarily disabled, the organization of health care outside their constant service sheet disability shall be issued only with the permission of the head physician (head) or a person performing his duties.

Piece of disability is issued:

– Employees of the citizens of the Republic of Belarus, foreign citizens and stateless persons who work in organizations, regardless of their form of proper public;

– Persons involved in business and other activities, subject to the payment of insurance contributions to the Social Security Fund of

Ministry of Labour and Social Protection of the Republic of Belarus;

– Unemployed, registered with the state employment, during the performance of public works;

– Employees from nationals – the Commonwealth of Independent States, in case they have temporary disability while staying in the territory of the Republic of Belarus.

Sick leave shall be issued to persons with a temporary disability occurred during the work (of the business and other activities) and lasted after its abandonment.

Republican Health Organization (clinics, hospitals, and others) have the right to grant sick leave citizens residing on the territory of the Republic of Belarus, regional – citizens living in the region, the district – the area, agency – employees of the relevant public authorities or organizations. Sick leave these health organizations issued without proper authorization chief doctor (the head) Health Organization.

Not eligible for the grant of sick leave doctors: regional advisory clinics, diagnostic centers, departments of medical rehabilitation sanatoriums, sanatoriums, medical and rehabilitation expert committees (hereinafter – MREC) and other medical advisory committees, emergency stations, stations blood transfusion, hospital admissions department, the State service of medical forensic examinations, hygiene and epidemiology centers, balneomud clinics, balneary and urban resort, recreation, tourist centers, medical exercises clinics, nursing homes.

If you lose the sick certificate of incapacity MAC of Health Organization issues a duplicate. When making a duplicate of the certificate of incapacity in the upper part indicates words «Duplicate Series., N ... (lost SD)», in the «liberation from work», one line indicates the period of temporary disability, the signature of the attending physician, and head of the department Deputy Chief of Medical Rehabilitation and expertise. In the medical card must specify the number and series of newly issued certificate of incapacity.

Sick leave shall be issued and renewed by state organizations healthcare regardless of affiliation and public health organizations, a special permit (license) for the examination TD and issuing sick leave, which is issued to with joint decision of Ministry of Health and Social Protection Fund population of Belarus for a period of not more than

five years, according to the legislation.

Senior students of higher medical educational institutions and health centers paramedics can be granted the right to issue leaves no disability during the influenza epidemic on the special order Min robust, agreed with the Fund, and – by the Health Min Skog City Executive Committee, Department of Health (healthcare) regional executive committees in consultation with the on-lastnymi, Minsk City Administration of the Fund.

Sick leave forms – documents with a certain degree of protection, recorded and stored as strict reporting forms. Blank certificate of incapacity is made up of two parts: the upper part - a receipt for sick leave, lower – a piece of disability.

Right side of the sheet is filled with disability attending physicians or medical-advisory committee (MAC) hospital, mean medical personnel Health Organization, providing right to grant sick leave in accordance with the Regulations on the Issuance of sick leave and certificates of temporary incapacity competitiveness. Individual rows and columns front sick leave fill medical rehabilitation expert committee (MREC), sanatorium's doctors, rehabilitation departments of medical health centers and other health care organizations.

Number of forms and sick leave certificates, the date of their issuance, renewal or discharge to work recorded in primary care documentation of outpatient or inpatient (adult, child), in the book (log) Registered sick leave (Form 036/y) and information – in the log of issued certificates and primary medical documents patient.

When making a certificate of incapacity produced on record in Belarusian or Russian, clearly and legibly, purple, blue or black ink. In this case, erasures and corrections not specified are not permitted. Any correction should be made clear, as is recorded in the fields certificate of incapacity (in one form no more than two patches).

In the certificate of incapacity allowed common and do not cause double interpretation reduction when you make a row «MAC», «Special labels», «Report on disability» and others, with the exception of reduced indicate the type of disability and the date of release from work and you peeps sick to work.

In ***«Special Notes»*** to record information about specific situations specified by the Regulations on the Issuance of sick leave

and certificates of temporary disability, as well as information, which in some case teas affect the size and duration of payment of benefits for temporary incapacity competitiveness.

In violationof the established ragime physician shall include: the date and nature of the violations of the (to be specified what exactly expressed breach), the signature and stamp of the physician or chairman of the WCC;

– *If the patient fails to appear at the reception to the doctor or to the MAC in the appointment term* – «Violation of the regime – was not at the reception from .... – By ... (Date)». If a disabled patient recovered in the «Report on the unability to work» states «there appeared (date) capable of working» day and month is called words. If disabled is not restored, the extension of a sheet of disability made only from the date of examination of the patient the doctor (MAC). Passed patient missed days of disability-section sheet capacity «Exemption from work» is performed.

In***«MAC»***contain dates inspection at MAC and the duration of the case of temporary disability (TD) in calendar days continuous or intermittent over the past 12 months), the name, signature and personal seal Chairman MAC.

When sheet of disability issued simultaneously for the duration of TD (eg, during inpatient treatment) or pregnancy and childbirth in the «assertion of work» in the first and second columns in one line indicates the entire period absence from work due to temporary disability, pregnancy and childbirth, for example: 22.03–twenty third June. The third column indicates the name of the post and the attending physician, in the fourth and the signature of the doctor's personal seal. Lower in the third column indicates – «Managing branch», the fourth of his signature and seal, in the next line below (where applicable) in the third column «Chairman of MAC», his last name, and the fourth column signature and personal seal.

After the medical and social expertise in building the MREC Chairman «MREC» certificate of incapacity indicates the start and end of the expertise and encrypts «Conclusion MREC», which stamped MREC.

Conclusion of patient disability shall be made only by the attending physicians sick the last day of his release from work or in

the event of the end of the blank certificate of incapacity, or after examination of the patient to MREC. If a disabled patient recovered, the doctor in the «Report on disability» writes «to work» and (pointing separately signed by the day and month date from which the patient has to go to work), or «to continue to hurt» if disabled patient not recovered, or «continues to care for the sick», if there is need in care and given a statement.

Persons who, after examination at MREC, which first established a working group disability recommendation in the conclusion of the disability states «to work» «and (in words the day and month date from which the patient has to go to work – the date following the date of the beginning Examining MREC), a disabled I, II, III group»and the date of disability.

If a disabled person at a survey team established in MREC invalidity without making employment recommendations in the «Report on the disability» states «disability, disabled I, II group» and the date on the examination on the MREC, the date of disability.

The last line of certificate of incapacity specified title and last doctor that covers disability sheet, which shall be signed and his personal seal.

For the identification of records in certificate of incapacity, the following print approved by Ministry of Health forms: personal seal attending physicians, seal Health Organization. «For sick leave and certificates» and official seal, seal MREC.

Under «Special Notes» is made:

– Permit a doctor to continue treatment in the organization of health escort at the place of residence or work sick – «allow the extension of treatment» (the name of the organization of health care), the signature, date and personal seal physician;

– Permission to leave the MAC in another city, country for treatment (counseling) – «permission to travel for medical treatment (the name of the city (country), Chairman MAC», put his signature, date and personal printing;

– Allow the head physician (head) of Health Organization to issue sheet of disability to nonresident (foreign nationals) – «The issuance sheet of TD permission, the chief doctor» signature, date and stamp printing organizations of health care;

− When making a decision MAC patient treatment in a sanatorium in separated of medical rehabilitation nursing home at the center of medical rehabilitation for speleotreatment – indicates validity vouchers, called Health Organization (nursing home center, and more), and at discharge – the effective date of arrival and departure times for treatment to the community (for further treatment);

− MAC decision when making the patient to MREC – «refered to MREC and the date of the direction to MREC (MAC extends sheet of disability prior to the proposed date of examination of the patient to MREC). Further clearance certificate of incapacity is made after receipt of the survey results of patient in MREC;

− The issuance of certificate of disability to continue (with the issuance of a certificate in the case of patient care) states – «The continuation sheet (certificate) disability» and his (her) N;

In the «Special Notes» are made as well:

− in changing the regime – a new type of mode and date of the change;

− endorsement of infringement of the regime – in the «Special Notes»;

− the issuance of certificate of disability to replace the Help document on temporary disability which occurred in a patient during their stay abroad, a duplicate certificate of disability – in the «liberation from work» in the «signature, personal seal doctor» below signature and seal of curing doctor;

Signature of the chief physician in all cases authenticated by the official seal of the organization of health – in the «Special Notes».

Stump of Health Organization «for sick leave and certificates», placed in a special place for it – left bottom of blank certificate of incapacity:

− Closing certificate of disability (disability in the blank sheet of rough case);

− The exchange of documents certifying temporary incapacity issued abroad;

− The issuance of a duplicate certificate of disability;

− The issuance of certificate of disability to replace references;

− In the case of certificates specified patches to form sheet of disability.

Stamp of MREC placed after the medical and social assessment in MREC in a special place for her «Stamp of MREC».

One case of temporary disability sheets of disability issued in an amount necessary to permit the entire event of temporary disability. In this first piece of disability is encrypted as «Primary» (1), the other issued in the course of the primary as «Continuation» (O).

Temporary disability is considered complete if the patient was released to work or in the primary direction of the MREC he established degree of disability, and for re-examination in the time period of disability of disabled workers – group disability increased or has not made a labor recommendation.

If you close a sick certificate of disability for work and he again experienced a temporary disability, the case was suspended, regardless of whether it is connected newly formed temporary disability of the same or other illness (trauma). If you close the sheet of disability of the patient to return to work came another kind of temporary disability, the patient is given a new sheet of disability, which is encrypted as a primary.

If a sheet of disability issued by the patient due to illness (trauma) is closed, but do not attack and in the work, he again found temporarily for work, including in connection with disease of other aetiology (other trauma), a new sheet is issued as a disability continued of the previously issued sheet of disability.

Certificates are issued to:

– Unemployed, registered with the labor, employment and social protection;

– The military, individuals ranks and officers of law enforcement bodies, financial investigation, authorities and units through Extraordinary Situations in case of appeal to the territorial organization of health for emergency medical assistance and determine their temporary disability;

– Laid off from work, which long-term (more than one month) loss of employment ability due to disease or injury occurred within one month after discharge;

– Students of general secondary, vocational, secondary and higher education institutions, graduate school, clinical residency,

including the discharge of agricultural work;

– Entrepreneurs, not registered in the departments of the Fund and the premium paid to the Fund;

– Persons who take care of a sick child under the age of 14 years with helping him on an outpatient basis, if he needs care after a 14-day period, certified by a certificate of disability;

– People to care for a sick child under 14 years of age, with helping him on an outpatient basis, if the decision of the MAC child needs care after a 7-day period, certified certificate of disability.

To care for a child up to 10 years in quarantine period in preschool or secondary education.

For patients with basic career with additional, sheet of disability issued in the amount required to be submitted for each workplace. In the upper right corner of the additional sheet of disability is granted the mark «additional».

Sheet of disability may be issued in the last days («afterthought»):

1) persons who work in shifts, sought medical attention after hours for outpatient clinics during the ambulance copper assistance to the emergency department of the hospital or health center to the doctor. At their subsequent treatment in health care, the attending physician, establishing a temporary disability, with the approval of the MAC (MAC decision is decorated in the «Special Notes») of the sheet of disability on the basis:

– Data obtained from ambulance station (date time of call ambulance crews, diagnosis and character of medical care);

– Help-form issued by the front desk hospitals defining the diagnosis and the nature of medical care if it turns out);

– Help-form issued by the medical assistant health center, with the date, time, treatment, diagnosis, nature rendered medical care.

If the doctor admits a patient for work, sheet of disability issued only for the day (hours) specified (s) in the certificate.

2) for hospital treatment given sheet of disability doctor with head of the department on the day of discharge for the entire period of stationary treatment of the day hospital and day of discharge, inclusive.

In case of temporary disability for more than 30 consecutive

days, at the request of the patient, it may be issued and closed sheet of disability during this period, to present at the place of work for temporary disability benefits, what is the corresponding mark in the medical hospital patient. At discharge, the patient is issued to sheet of disability leaving period of treatment in a hospital as a continuation of the previously issued sheet of disability.

If at the time of discharge disabled patient recovered a sheet of disability issued by drawing day and closes. If necessary, due to the remoteness of the medical facility from the residence patient sheet of disability separately extended by one day.

If at the time of discharge disabled patient has not recovered, sheet of disability is extended for a period of 3 days, and during prolonged temporary disability in the absence of evidence to the part of the medical examination, sheet of disability may be renewed once for up to 10 calendar days. Further extension and closing sheet of disability is making by converges Health Organization, which will continue treatment of patient.

If, after discharge from the hospital with the patient's appearance outpatient physician finds his rehabilitation before of the period of leave from work by hospital, he sends the patient to the medical-advisory committee (MAC) for the issue of decide competitiveness. If the MAC in its conclusion recognizes sick for work, disability sheet closes. In line sheet of disability «Report on disability» MAC makes the appropriate corrections.

Remember!

In the day care at outpatient clinics is not a piece disability shall be issued and renewed as outpatient treatment, and hospital inpatient facilities – both in-patient treatment.

Cardiological and oncological patients diagnosed with sick leave may be granted and renewed in health organizations at the place of service.

When a sheet of disability issued quarantine by infectionist, and in his absence – by another doctor, for the entire period detunings of the work, if the employee has been in contact with infected patients and was off from work by decision of sanitary-epidemiological service. In «View of disability» states «Quarantine», noting the name

of the disease, causingthe necessity of imposing on the worker quarantined, in the «Mode» – «Home».

If possible (at the conclusion of the MAC and the agreement with the sanitary-epidemiological service) temporary employment for a period of quarantine sheet of disability is issued.

When the direction of the patient for a consultation or treatment to another city of the Republic of Belarus, for that there is the main conclusion of the expert (the deputy chief physician of the medical work, head of the organization of health care), or abroad if the direction of the Ministry of Health for consultation (treatment), MAC Health Organization issues a sheet of disability at the required time, but not more than 10 calendar days. MAC on line sheet of disability «Special Notes» indicates «The direction to the consultation (treatment) (specify the name of the organization of health care and address)». In the sheet of disability «Exemption from work» in the field «From what date» stamped start date temporary disability. Renewal and closure of the sheet of disability makes MAC Health Organization's return after a patient survey (treatment) based on the certificate (extract from the case) to hold consultation (treatment).

Patients who have a temporary disability occurred during the sanatorium-resort treatment, sheet of disability issued by the attending physician with the head of the department, and in his absence – the deputy head doctor or health center with the chief doctor.

Persons sent in accordance with legislation on the work after graduation, graduate studies, clinical studies, disability sheet issued on the day appointed for the appearance at work.

In the case of alcohol, drug or toxic coma, and in the treatment of chronic alcoholism (addiction, substance abuse), not complicated by other disorders and diseases, the patient is given sheet of disability, which in the «Special Notes» states «The disease is associated with the use of alcohol, drugs or of toxic substances».

Complications in the treatment of alcoholism, drug abuse, toxins addiction sheet of disability given patient without above this mark for the entire period of temporary disability.

In carrying out cosmetic surgery or plastic surgery, starvation treatment sheet of disability shall not be issued except for their conduct on medical occurrence in a patient or complications.

Sheet of disabilityfor sanatorium treatment is issued:

– People ill and undergoing radiation sickness caused by consequences of the Chernobyl disaster;

– The disabled, for which a causal relationship with the disabled of the Chernobyl disaster;

– TB patients for treatment in a tuberculosis sanatorium.

Sheet of disability in these cases gives MAC (in its absence – the attending physician with the chief physician) Health Organization, refer the patient to a sanatorium treatment on presentation of vouchers, to attending to a sanatorium: when you make a certificate of incapacity in the «Type of disability «indicates» sanatorium treatment» in the «Mode» – «Sanatorium» in the «Special Notes» – the name of the nursing home, start date, and final of sanatorium vouchers.

Sheet of disability closes MAC Health Organization places of service patient with the deadline of its actual stay in the sanatorium and time spent on travel. In case of arrival of the patient in a sanatorium late or early it out MAC Health Organization sheet of disability does mark about break mode and adjusts the timing of leave from work in accordance with the actual time spent on a sanatorium treatment and at the time of travel.

During outpatient medical rehabilitation for patients with temporary disability sheet is issued as a disability in outpatient treatment. After rehabilitation the patient is carried out in their free time.

Patients with temporary disability, sent to hospitals or medical rehabilitation centers, a sheet of disability issued by a hospital admission.

When sending patients for medical speleotherapy sheet of disability issued closed and issued MAC Health Organization at the place of residence of the patient. Sheet of disability issued for the entire period speleotherapy against time to get to the place of treatment. With its design in line «type of disability» states «disease» in the «Mode» – «Fixed».

Sheet of disability for carer's issued if lack of care threatens health of the patient, and hospitalization is not possible due to the severity of the patient and non-transportable or temporary lack of places in the hospital. Sheet of disability for carer's issued from date on which there is a need for additional (individual) care. If a person

busy caring for the sick, do not need to have leave from work (weekends, holidays, during the holiday season), the sheet of disability issued from the day when the need arises.

Sheet of disability for carer's to patients in need, may be given alternately to different caregivers.

You must know that sheet of disability for carer's of patients is permanent patient care or off-site residence of a person caring for a sick, Health Organization issued at the location of the patient with the permission of the head physician.

Sheet of disability for carer's patients who achieved fourteen-year age, issued by the attending physician only for outpatient treatment of his family member or other person caring for the sick, for up to 3 days. In exceptional cases, by decision of the MAC (Chief Physician Health Organization), with the severity of the patient Sheet of disability may be extended up to 7 calendar days.

Major medical indications for referral to MREC are:

− Long-term, no later than 4 months of continuous temporary disability,

− TD duration of five months with breaks for the same or related diseases

− Signs of disability, regardless of the timing of TD.

The concept of disability.

Persistent disabilities – a condition always disruption of the body caused by disease or injury, is irreversible or partially reversible, although long-term complex treatment, and forced the employee to cease all work in a production environment, or go to sheltered employment, often with leads to loss of primary occupation, lower skills or a significant reduction in the volume of work or norms.

Disabled person is a person who due to limited life due to physical or mental disability, in need of social protection and assistance.

The criterion is to limit the life of disability, caused by diseases (injuries, defects), leading to social dezadaptation due to a limitation or inability to learning, communication, guidance, control your behavior, movement, self-service, participation in the labor force.

Criteria for establishing the disability:

The basis for determining *I degree of disability* is dependent on the continued unregulated care parties owing to the pronounced

disability due to illness, the effects of trauma, severe combined anatomical defects and leads to social failure.

I degree of disability defined as in diseases with absolutely unfavorable prognosis regarding life for the near future independent of the degree of disability at the time of examination at MREC.

The basis for determining *II degree of disability* is significantly expressed disability, diseases caused by consequences of injuries, combined anatomical defects and leading to social failure.

Significant disability appear: in pathology of visceral, nervous, endocrine, cardiovascular, musculoskeletal, visual system when the violation of their functions reach far-severe (FC 3), the combination of moderate dysfunctions (FC 2) two or more systems, create syndrome giving mutual aggravation within the same category of vitality and lead to a significant limitation of it, in the expression of mental disorders.

II degree of disability is defined as independent of the severity of disability under questionable (despite of treatment and rehabilitation) labor forecast and contraindications to labor in connection with the possible health disorders.

The basis for determining *III degree of disability* is moderate restriction of life due to diseases, traumas and severe anatomical defects and leads to social failure.

– To limit the scope of professional activities in the trade for 4 or more digits (over 25%) job title spetialist or the level of control of the head;

– Time limit of labor time (to work only part-time);

– The need to provide a workplace adapted auxiliary mechanisms and other means. Moderate restrictions of vital activity (FC-2) arise: the pathology of visceral, nervous, endocrine, muscularsceletal, cardiovascular, visual systems, psychic activity, when the malfunction of any of them reaches moderate or mild dysfunction (FC-l) more of the one of systems that create mutual aggravation syndrome within the same category of life, resulting in moderate to limit it, with mild abuse professional but significant function (FC-l), the guiding it impossible to continue the work what reduce his qualifications, as well as a pronounced hearing loss (deafness III–IV degree).

Composition, functions, organization of MREC.

Medical and Rehabilitation Expert Commission (MREC) conducts medical and social expertise of disability based on a comprehensive assessment of health status, the degree of functional disability and disabilities including mental status and motivations of patient, social and environmental professional factors. MREC under circumstances (medical indications) establishes the degree of restriction of life of patients, the cause - the time of disability, determines the extent of the loss of professional disability (as a percentage), work out individual rehabilitation program (IRP). Issuance (extension) of sheet of disability for a longer periods of temporary disability is made by the MAC of Health Organization, based on the opinion of the MREC in case of lack patient disability and deciding to aftercare rehabilitation.

The main tasks of MREC:

– Conducting quality medical and social assessment of patients with determines degree of patients' disability;

– Determination of the cause (work accident, occupational disease, wounded at the front, etc.) and time of onset of disability to decide on a pension or compensation to family members of the deceased invalid;

– The percentage of disability in occupational diseases and for occupational injuries;

– Prevention of disability, making individual rehabilitation programs with the volume of the order and sequence of the medical, social and professional rehabilitation, control of implementation;

– Analysis of performance on a quarterly basis to report to the higher standing MREC;

– Conferences, meetings, seminars on the prevention of disability, medical and social assessment and rehabilitation in various healthcare organisations;

– Advice to healthcare organisations and control of medical and social expertise of temporary disability and medical rehabilitation.

***Remember*,** identifying the signs of disability is the basis for sending the patient to MREC in any period of TD!

Survey citizens in MREC held at home (on constant residence) or attaching them to the healthcare organisations toward MAC direction of healthcare organisations. MREC hold session in the healthcare

organisations on a scheduled basis, and go to your home or in a hospital, if the patient can not come to the meeting for health reasons.

MREC conducts examinations of patients, study medical (Form 088/u) and other documents as required and after discussing make decision.

With a favorable clinical and labor prognosis of patients with 4 months of continuous TD are directed to MREC for sanctions to further extend the sheet of disability up to 4 months in addition to the recovery ability to work.

If MREC recognizes sick for work, MAC extends sheet of disability for the duration of the examination, including the day of its completion, and writes out the patient to work the next day.

If MREC does not reveal the basis of disability in the patient and recommend extension treatment, the MAC in the «MAC» sheet of disability is writing «allow the extension of temporary disability», which shall be signed and stamped bypersonal Chairman MAC.

Disabled workers who have labor recommendation of MREC, in case they have an illness or injury with temporary disability, sheet of disability is given in accordance with the presenting regulations. When issuing a sheet of disability in the «Special Notes» a mandatory «The disease (trauma), not linked to or connected with the cause of disability».

I degree of disability is setting for two years, II and III degree – for one year. Disabled in connection with the accident at the Chernobyl nuclear power plant persons have done next examination in five years. Disabled in connection with participation in military operations in Afghanistan and in other states in the primary examination of disability is set to 5 years, with next examination – on the same basis, ie depending on the degree of disability.

Reexamine of persons with disabilities held after the expiration of constant disability, ending the first day of the month following the one in which defines disability.

There is a detailed list of anatomical defects, which constantly assigned a degree of disability.

To children up to 18 years if there are medical grounds MREC determines the degree of disability and loss of health of the child. The degree and cause of disability are not set, and a decision is made –

«child invalid» and establishes the degree of loss of health. A month before achivement 18 years of child healthcare organisation admit «disabled child» at MREC, where he, under circumstances which establish is one of the disability and its cause – «disabled from childhood» («disabled from childhood connection with the Chernobyl Nuclear Power Plant disaster»).

MREC decision shall enter into force after the child turns 18. Prolonging disability if there are grounds to persons who are 18 years old, based on the conclusions of MREC interdepartmental expert advice about disease (injury) causation with the accident at the Chernobyl nuclear power plant.

LESSON № 2 Acute respiratory infections (influenza and other viral respiratory infections), acute tonsillitis.Diagnosis, treatment, medical tactics, medical-social examination. Dispanserization of acute tonsillitis.

Acute respiratory disease – a disease that is defined by the sudden appearance of at least one of the four respiratory symptoms (cough, sore throat, shortness of breath, acute rhinitis) in the presence of clinical evidence that the disease is caused by infection (may show a increased temperature or without fever).

Influenza – an acute infectious disease with a droplet mechanism of transmission, occurring with symptoms of intoxication, high fever (above 38°C), sore throat, and, often, the phenomena of tracheitis.

The spectrum of clinical manifestations of disease caused by influenza viruses, including pandemic influenza A (H1N1), includes light, moderate and severe forms of the disease. Symptoms of pandemic influenza A (H1N1), in general, has no significant clinical differences from the normal seasonal flu. However, it had a participation in the process of all age groups, including young people, more frequent complications of the lungs, especially in those related to the risk group.

Risk group of patients with influenza

1. Patients with immunodeficiency (congenital immuno-deficiency, HIV infection or AIDS).
2. Patients with chronic obstructive pulmonary disease and

asthma.

3. Patients with cachexia.

4. Patients with decompensated or subcompensated diabetes as well as obesity.

5. Patients with chronic cardiovascular disease (except isolated hypertension).

6. Pregnant.

7. Children up to two years.

Clinical manifestations and complications of influenza

Clinical manifestations of uncomplicated influenza:

acute onset, fever (38–39°C), weakness, headache, myalgia, ocular symptoms (photophobia, tearing, pain in the eyeballs), dry cough, runny nose, stomach pain, vomiting and diarrhea in adults with pandemic A grippe (H1N1).

For most patients, the disease ends in complete recovery without complications within 7–10 days, although cough and weakness can persist for two weeks or more.

Complications of the respiratory organs

In mild flu inflammation limited to the mucosa of the nose, pharynx, larynx and trachea. In moderate flu affects the trachea, bronchi, leading to complications from the respiratory tract in the form of acute laringotracheobronchitis, in severe influenza virus develops pneumonia with acute respiratory distress syndrome (ARDS hereinafter), the appearance of multiple organ failure. A serious complication of severe influenza is the development of encephalopathy.

Primary viral (influenza) pneumonia develops in the first 24–72 hours of onset (1–3 day runs as toxic acute hemorrhagic pulmonary edema, with 4–6 days as polysegmental often bilateral pneumonia).

Risk groups: the elderly, pregnant women and children, patients with a history of premorbid background (chronic lung disease, cardiovascular, diabetes, overweight). However, in some patients the risk factors are not detected.

Clinic: acute onset with chills, a rapid rise in body temperature, increase of intoxication and breathlessness. The cough is usually unproductive, sometimes with scanty sputum streaked with blood, the appearance of dyspnea, cyanosis increases. Auscultatory pattern changes with the progression of the disease: in the early stages – a

crackling, scattered dry rales, wheezing then extend to all parts of the lungs, breathing weakened, in the terminal stages – wheezing little heeded, breathing is much weaker in patients with severe tachypnea.

Characterized by: leukopenia peripheral blood, sputum basic cellular elements – mononuclear cells, complications of primary viral pneumonia – ARDS, acute renal failure, disseminated intravascular coagulation.

Severity due to the development of acute respiratory failure (number of respiratory movements and more than 30 in a moment, in the act of breathing involved supporting muscles of the chest and abdomen, oxygen saturation below 90%), the growth of the intoxication syndrome and multiple organ failure. The most frequent and serious complication – acute hemorrhagic pulmonary edema and cerebral edema.

Radiographic features: in the early stages has been increasing pulmonary pattern without signs of focal infiltrative changes characteristic of bacterial pneumonia in the progression of the disease for 3–4 days can be seen on the radiograph bilateral confluent infiltrates.

Morphologically: hyperemia and edema of the lung tissue, pockets of red seal, the mucous membrane of the trachea and bronchi, bright red, covered with semi hemorrhagic mucus. A microscopic examination – desquamation of epithelial cells of the mucous membrane of the trachea and bronchi, and swelling of loose connective tissue of the submucosa, in the lumen of the bronchi – hemorrhagic exudate, with further progression of the disease – reduced lung airiness by distelektazov and accumulation in the lumen of the alveoli amorphous mass of protein, red blood cells and desquamated alveolocytes («flu-like cells») that ends with the formation of hyaline membranes.

Example wording of diagnosis:

Influenza (the strain if it is defined). Primary viral pneumonia complicated by acute respiratory distress syndrome, hemorrhagic pulmonary edema. Multiple organ failure. Respiratory failure 3 degree (specify type of respiratory support).

Secondary (later) a bacterial or viral and bacterial pneumonia. The interval between the first symptoms and signs of respiratory involvement in the lung parenchyma is 4–6 days. The main pathogens – Str. pneumonieae, Staph.aureus (50%), H. influenza.

Clinic of such patients have a progressive course of influenza,

the body temperature returns to normal, remaining signs of intoxication, to 4–6 days cough increased, becomes painful, scanty sputum, sometimes mixed with blood, shortness of breath may be pleural pain. When auscultation listened scattered like dry and moist rales. Pronounced tachycardia, cyanosis.

Changes in peripheral blood can be multi-directional and have no diagnostic value. In the sputum of patients show as viruses (polymerase chain reaction – PCR)) and bacteria.Cellular composition of sputum – polinuklearnye leukocytes with more bacteria.

Rise due to the severity of respiratory failure, multiple organ failure connection.

Radiographic features of the data: the absence of signs of focal infiltrative changes in the early stages, and the emergence of consolidating pneumonic lesions to 4th–6th day of disease.

Morphologically: with viral and bacterial pneumonia increased hemorrhagic nature of inflammation – lung tissue and mucous membrane of the trachea and bronchi, the bright red color in the lumina of the alveoli – a large number of fresh and hemolyzed red blood cells microscopically bronchi filled with desquamated epithelial cells.

Example wording of diagnosis:

Flu. Viral and bacterial pneumonia complicated by ARDS. Multiple organ failure. Respiratory failure 3 degree (specify type of respiratory support).

Secondary bacterial pneumonia develops in patients later than the fifth day from the beginning of the disease, with the regression against the symptoms of influenza joins secondary bacterial microflora, usually Str. pneumonieae, St. aureus, H.influenza,Kl. pneumoniae.

Clinic: increases cough, which becomes painful, there is pain in the chest associated with the act of breathing, resurged general intoxication symptoms (increased body temperature – the second wave of fever, sweating, decreased appetite). Becomes purulent sputum. Physical examination revealed signs of local parenchymal process. Staphylococcal pneumonia runs particularly difficult. Clinical experience shows that this kind of pneumonia is often complicated by the development of degradation with the formation of lung abscess.

Characterized by leukocytosis or leucopenia in peripheral blood,

sputum Gram stain reveals a large number of bacteria, and polymorphonuclear leukocytes.

Severity due to the nature and severity of developing complications: local (external respiration) and system (from other organs and systems).

Radiographically: infiltrative changes characteristic of bacterial pneumonia, an inhomogeneous structure, fuzzy outer contours, segmental or polysegmental length, up to abscess formation.

Morphologically: focal or confluent infiltrates, microscopic features of which are due to respiratory pathogen.

Acute laryngotracheitis with stenosis of the larynx is also the name of a competing croup syndrome and implies emerged quickly (within hours or days), shortness of breath associated with the narrowing of the airways. Characterized by three major symptoms:

- Changes in voice;
- Rude «barking cough»;
- Sonorous breathing difficulties (stenotic breathing).

There are four degrees of stenosis of the larynx, with the leading criterion for assessing the severity of stenosis is respiratory failure.

Example wording of diagnosis:

Influenza, complicated with acute laringotracheobronchitis and bronhospastic syndrome, prolonged duration, respiratory failure 0 degree.

Extrapulmonary complications of influenza:

cardiac complications – myocarditis, pericarditis in previously healthy young patients or cardiac arrhythmias and congestive heart failure in patients with chronic cardiac disease;

acute toxic encephalopathy (often referred to as encephalitis less valid because of the lack of influenza virus tropism to neurocytes and glia) – is very rare, only in children is the result of microcirculation in the brain to form multiple ischemic and hemorrhagic lesions. Characterized by a high mortality rate and the formation of severe neurological deficits in survivors;

Landry-Guillain-Barre syndrome– a form of acute inflammatory poliradikuloneuropatia manifested flaccid paresis, sensory symptoms, autonomic disorders. At the heart complication is the development of autoimmunity, although corticosteroids therapy usually does not lead

to stabilization and rapid regression of symptoms;

Reye's syndrome – rarely encountered pathology of the liver and central nervous system with a high mortality rate. Reye's syndrome most often occurs in children and adolescents in the background of a number of viral infections, including influenza, treatment with aspirin. In this regard, for the relief of fever in this age group should not be given medications containing aspirin;

*myositis*relatively more common in children with influenza type B, rare cases of rhabdomyolysis can lead to acute renal failure;

acute otitis media, sinusitis, bronchitis, occurring against the backdrop of a portable acute respiratory infection. Etiological factors are not only viruses, but many bacterial agents – Streptococcus pneumoniae, Haemophilus influenzae, β-hemolytic streptococcus gr. A, Moraxella katarralis, staphylococcus, chlamydia and mycoplasma;

exacerbation or decompensation of any underlying chronic disease.

Danger signs of more severe disease

- Shortness of breath during physical activity or at rest;
- Shortness of breath;
- Cyanosis;
- Bloody or colored sputum
- Pain in the chest;
- Altered mental status, high body temperature for more than 3 days, bad stoped standard doses of antipyretic drugs;
- Low blood pressure.

Clinical features of pandemic influenza A (H1N1):

appearance of pain on swallowing, presence dyspeptic symptoms in 10–12% of patients;

more frequent development of viral pneumonia with the appearance of respiratory failure on average 5–6 days before the date of the occurrence of the first clinical signs of disease;

development of viral pneumonia in patients who are overweight (body mass index of 30 or more);

the rapid development of ARDS, which is preceded by severe shortness of breath and persistent, difficult to treat cough and hemoptysis, and in some cases, the development of multiple organ

failure;

in laboratory research in the general analysis of blood often prevails leukopenia, leukocytosis, and less common neutrophilia;

changes in the X-ray examination of the lungs appear later in the development of clinical signs of respiratory distress, often interpreted as «stagnation in the small circle», «increased vascular pattern», «pulmonary fibrosis»;

tendency to hypercoagulability of blood that determines the need for coagulation monitoring with compulsory prevention of thrombosis in patients in severe cases;

the development of severe disease in patients younger and middle-aged.

Procedure for the provision of care for patients with influenza and acute respiratory infections.

Patient with mild to moderate risk, uncomplicated influenza carried out in an outpatient setting, and includes:

home mode, drinking a lot of fluids, nutrition;

paracetamol and other antipyretics in standard therapeutic doses (those under 18 years of drugs, including acetylsalicylic acid, not appointed);

symptomatic treatment of rhinitis, pharyngitis, tracheitis.

Indications for hospitalization of adults are:

severe flu flow: severe weakness, lethargy, impaired consciousness, convulsions, dyspnea (respiratory rate over 20 per minute for those over 13 years), dehydration, inability to drink (for example, because of repeated vomiting), fever above 38,5°C not stopped the usual dose of fever-reducing medicines, stable persistent cough accompanied by shortness of breath, coughing up blood;

suspected pneumonia or other complications;

patients at risk, including pregnant women, in the absence of the effect of medical care provided for 3 days;

the signs of involvement in the central nervous system;

When treating any flu in patients who are at risk in the outpatient setting (if the decision was made by the attending physician or patient refusal of admission), it must be assigned antiviral therapy within 48 hours of the disease and, if indicated, antibiotic therapy. Treatment

of complications of influenza, bronchitis, otitis media, sinusitis, according to local clinical protocols.

Principles of causal treatment of influenza and its complications.

The basis for the treatment of severe and moderate forms of influenza.caused or allegedly caused by the pandemic strain of H1N1, all cases occurring in contingent risk of viral or bacterial and viral pneumonia all severe forms of the disease, is an antiviral drug oseltamivir or zanamivir in the relevant age doses (Tabl. 7). It is essential that the most effective antiviral drugs noted in the first 48–72 hours after the onset of the disease, but in severe and complicated course of their useful purpose in any stage of the onset of the disease. Oseltamivir dose may be increased to 150 mg two times per day and extended to 10 days. Increasing the dose and duration of therapy is especially warranted in patients who are in intensive care and receiving respiratory support, as well as in patients with a body weight of over 110 kg, especially the introduction of the drug through the probe specified in section nutritional support.

It is antiviral drugs are the basis of causal treatment of influenza, especially in the early stages of the disease and its complications.

Antibacterial drugs used in the treatment of pneumonia, prescribed depending on the severity and timing of the disease and are used in conjunction with this antiviral therapy. Their role is to increase with the terms of the disease.

Opening arrangements may be protected designation aminopenicillins cephalosporins or 2nd – 3rd generation, in more severe cases, protected cephalosporin or carbapenem non-antipseudomonal effect, combined with a macrolide or respiratory fluoroquinolones.

When you are in the intensive care unit, patients who are on a mode of mechanical ventilation for more than 5 days, antibiotic therapy is assigned with the sensitivity of nosocomial flora: antibiotics with antipseudomonal activity (especially carbapenems) in combination with respiratory fluoroquinolones or macrolides or aminoglycosides (gain antipseudomonal effect). In cases of possible accession of methicillin-resistant Staphylococcus aureus, recommended the inclusion in the

scheme of therapy glycopeptides oxazolidinones (preferred because of its good tissue penetration).

Category of patients with acute respiratory viral infection and flu, to be appointed by the antiviral drugs oseltamivir and zanamivir:

pregnant;

patients with severe and complicated influenza;

patients admitted to hospital with symptoms of involvement in the lower respiratory tract (tachypnea, dyspnea: reduced blood oxygen saturation), regardless of the length of the disease;

children younger than 5 years;

persons with severe chronic diseases (especially with COPD, asthma, diabetes) and/or immunodeficiency (HIV immunosuppressive therapy, post-splenectomy);

obese patients;

patients undergoing outpatient treatment, with persistent fever 38,5°C and above for one or two days or more, cough and other symptoms of tracheitis.

Drug oseltamivir or zanamivir can be used for post-exposure prophylaxis of health care workers for medical care for patients with pandemic influenza A H1N1.

Table 7– Dosesof antiviral drugs usedfor the prevention andtreatment of influenza

Medication (name, dose, dosage forms)	The destination	Dosesfor different age groups		
		1–12 years	13–64 years	elder then 65 years
Ozeltamivir*	prevention	Not used	75 mg/day	75 mg/day
	Treatment	dose variesdepending on the weight**	75 mg 2 times a day	75 mg 2 times a day
Zanamivir (in blister for inhalation)	prevention	10 mg 1 times a dayuntil 7 years	10 mg1 times a day	10 mg 1 times a day

	Treatment	10 mg 2 times a dayuntil 7 years	10 mg 2 times a day	10 mg 2 times a day

*Reduce thedoseof oseltamivirin patientswith creatinine clearanceless than 30 ml/min.

**Weighs<15kg – 30mg 2times aday.,>15–23kg –45 mg2 times aday, >23–40kg –60 mg 2times aday, >40 kg– 75 mg2 times aday.

Oseltamivir is taken two times a day for treatment up to 5 days. However, in severe cases, adults often need a higher dose – 150 mg 2 times a day, and a long course (7–10 days).

In the absence of significant clinical symptoms and complications, your doctor may refrain from administration to a patient etiotropic drugs.

Indications for antibiotics is the severity of the patient and the presence of bacterial complications. If there are indications for antibiotics in ambulatory practice is starting amoxicillin or amoxicillin/klavulonat. In the case of allergy in the patient to ß-lactam antibiotics, or the presence of clinical manifestations in favor of atypical microorganisms justified macrolide antibiotics or respiratory fluoroquinolones.

Algorithm of antibiotic treatment

Outpatient practice

If there are indications for antibiotic therapy starting antibiotics are beta-lactam antibiotics: amoxicillin inside 0,5–1g three times daily, or amoxicillin/clavulanate into 0,625 g 3 times a day or 1 g, 2 times a day, or intramuscular ceftriaxone 1,0–2,0 g 2 times a day in combination with macrolide antibiotics: clarithromycin into 0,5 g 2 times a day, or azithromycin into the 0,25–0,5 g 1 per day (course dose of 1,5 g), or respiratory fluoroquinolones, levofloxacin into 0,5–0,75 g 1–2 times a day, moxifloxacin into 0,4–1 g once a day. In the case of allergy patient to beta lactam antibiotics are prescribed macrolide antibiotics clarithromycin into 0,5 g 2 times a day, or azithromycin into 0,2–0,5 g 1 per day (course dose of 1,5 g), or respiratory fluoroquinolones – levofloxacin inside 0,5–0,75 g 1–

2 times a day, and moxifloxacin – into 0,4–1 g once a day.

Antipyretic therapy provides for the appointment of antipyretics in acute respiratory infection. Typically antipyretic drugs for acute respiratory infection using:

adults – at temperatures above >38,5°C;

malignant hyperthermia in violation of microcirculation;

the presence of severe subjective symptoms associated with fever (headache and muscle pain).

Immunomodulating therapy

The absolute majority of patients with severe pneumonia caused by influenza A H1N1 in the general analysis of blood revealed leukopenia (<4,0 h 109/l) and / or lymphopenia (*absolute lymphocyte count*<1,2 h 109/l), indicating the presence of secondary immunodeficiency reducing the effectiveness of the anti-viral and antibiotic therapy, and requires a corresponding correction.

In the presence of leukopenia (<4,0 h 109/l) and lymphopenia (<1,2 h 109/l) is assigned to intravenous immunoglobulin (venoimmun rate of 200mg/kg, an average of 15 g/day, 1–2 introductions), and 2 ml tsikloferon in / muscle or intravenously on days 1, 2, 4, 6, 8, 10, 12, 14, 16, 18 day (total of 10 injections). In the presence of an isolated lymphopenia – tsikloferon by the above scheme.

Venoimmun an immunologically active protein fraction IgG. Contains antibodies against a variety of pathogens – bacteria and viruses, including herpes, influenza, Staphylococcus aureus, Escherichia coli, and other pneumococcal infections. The number of transfusions, intravenous immunoglobulin depends on the severity of the process. In severe bacterial and viral infections that are difficult to care, amid persistent leukopenia venoimmuna permissible dose increase to 0,4 g/kg or increasing the dose frequency to 3–4 times.

Cycloferon an inducer of endogenous interferon, which defines a wide range of its antiviral, antibacterial and anti-inflammatory immunomodulatory activity. It activates the bone marrow stem cells, stimulating the formation of granulocytes, and activates T cells and natural killer cells, normalizes the balance between subpopulations of T-helper and T-suppressor cells.

When transferring patients who had leukopenia and/or lymphopenia and suffered respiratory failure 2–3 degrees of OITR in

pulmonology department to continue the work started by the introduction tsikloferona diagram above.

Corticosteroids

Appointment of glucocorticosteroids is conducted only in hospital with a diagnosis of severe acute respiratory distress syndrome.

Angina (ICD-10 – acute tonsillitis, J03) – an acute infectious disease of mainly streptococcal etiology, characterized by symptoms of intoxication, fever, inflammatory changes in the lymphoid formations throat ring/more often in the tonsils/and regional lymphatic nodes. Although the term «angina» (from Latin ango – Compress, choke) is not exact (acute inflammation of the tonsils is rarely accompanied by suffocation), it is widely distributed to health professionals and the public and can be used on an equal footing with the more accurate term – «acute tonsillitis». For inflammatory tissue oropharynx (mostly almonds) encountered in many infectious (scarlet fever, diphtheria, infectious mononucleosis, etc.) and non-infectious (leukemia, agranulocytosis, etc.) diseases should use the term «tonsillitis», or rather «secondary tonsillitis».

Epidemiology. The prevalence of angina is highest in countries with low levels of socio-economic development and poor material conditions. Urban population suffers significantly more rural in one and the same climatic zone, due to the greater density of the urbanized population.

The incidence of angina during the year is subject to large fluctuations, it is minimal – in the summer, the maximum – in the autumn-winter period (October – January). Increasing incidence has an impact, as a drop in temperature and increase the humidity. Increased incidence in the fall and winter due to the increasing number of patients with acute respiratory illness by coughing and sneezing much more intense isolated streptococci into the environment, creating favorable conditions for the rapid contamination of surrounding people. Angina is a certain contagious. Sore outbreaks occur most often in large groups (children, adolescents, production, etc.). This is due to the fact that streptococci mainly infected people in the immediate vicinity of the source of infection. These conditions are often created by the presence of people

in organized groups, when using public transport.

Infection of angina occurs mainly by airborne droplets. In cold weather and high humidity, the conditions under which lasts longer aerosol droplet phase in which bacteria are virulent state. In accommodation, the sources of infection are contaminated with germs bedding and household items. Infection occurs during physical activity (lifting, dressing, making the bed, etc.). However, in these conditions, bacteria rapidly lose their virulence properties and can cause clinical forms of disease. Infection with angina can occur when using infected tableware, i.e. in violation of sanitary rules, the conditions for the spread of streptococcal nutritional means. It should be noted that the β-hemolytic streptococci, getting on the meat, dairy and containing sugar, the products may actively multiply and create the conditions to infect large numbers of people, united by a single point of supply.

The source of infection is patients with manifest forms of streptococcal disease and healthy carriers of germs. The greatest danger is posed by the epidemic patients with angina. The frequency of healthy carriers of group A streptococci is characterized by large fluctuations. It rises sharply shortly after the update, or groups, in epidemic outbreaks of streptococcal disease and decreases after the identification and isolation of patients. Of healthy carriers of strep is 1–2 months to 1 year or more. However, the role of healthy carriers of β-hemolytic streptococci in the epidemic process is much less than in patients open forms of streptococcal disease – sore throat and scarlet fever.

Etiology. The causative agent of angina may be bacteria, viruses, spirochetes, fungi. In most cases (31–80%), sore throat caused β-hemolytic streptococcus group A (BHSA) or other groups, at least – staphylococci, or both. In organized groups bacterial pathogens angina can be pneumococcus, meningococcus, influenza bacillus, typhoid, Klebsiella. Very rarely can cause a sore throat anthrax bacillus, anaerobes like Clostridium. The reason most often viral sore throats are adenoviruses (1–9 types), enterovirus Koxakie, herpes virus, and spirochetal – oral spirochete in conjunction with the fusiform bacteria.

Pathogenesis. Infection atriums are lymphoid ring formation Pirogov. Contained in the hull β-hemolytic streptococcus lipoteichoic acid has an affinity to the epithelium of the oropharynx and lymphoid

apparatus thus provides fixation of these microorganisms in the tonsils or other clusters of lymphoid tissue.

Streptococcal M protein and streptococcal toxins inhibit the ability of phagocytes to engulf and digest bacteria, which promotes long-streptococcal bacteremia and antigenemia.

Reproduction of streptococci in the body is accompanied by production of toxins that cause inflammation of tissues tonsils. With the penetration of streptococci and their metabolic products on lymphatic routes in lymph nodes occurs regional lymphadenitis.

With a favorable course of the disease is limited to the spread of microorganisms lymphoid formations oropharynx and regional lymph nodes. When failure of the barrier function of the tissues surrounding the tonsils, streptococci can invade okolomindalikovuyu fiber and cause its inflammation (peritonzillit, peritonsillar abscess).

In the pathogenesis of angina are important both exogenous and endogenous factors. Among the exogenous factors determine paramount infectious agent (its virulence) penetrating through the epithelium of the inner surface of the tonsils, their gaps. In the mechanism of angina are also important such harmful environmental factors like dust, pollution, changes in air temperature. Plays an important role general and local hypothermia. A certain role in the pathogenesis of angina is given the power factor - monotonous protein foods deficient in vitamins C and B predisposes to the development of angina. Contributing factor may be a minor injury tonsils foreign body (hair toothbrush, small fish bone), spatula in determining the contents of the lacunae of tonsils. A very important role in the pathogenesis of angina is a violation of nasal breathing. Sometimes, surgery of the nose is a provocative moment for its occurrence.

Clinical classification of angina (By Y.Liashenko, 1985)

Etiology:

- Streptococcal;
- Strepto-staphylococcal;
- Staphylococcal;
- Fungal;
- Fuzospirohetny symbiosis etc.

Localization of the pathological process:

- Tonsils;

− The side bolsters of the throat;
− Nasopharyngeal tonsil;
− Lingual tonsil;
− Lymphoid formations posterior pharyngeal wall;
− Lymphoid formations larynx.

By the nature of inflammatory changes:

− Catarrhal;
− Follicular;
− Lacunar;
− Necrotic (necrotizing, fusospirochetal).

For emphasis:

− Easy;
− Moderate;
− Heavy.

In the form:

− Primary;
− Repeat;
− Secondary.

By the presence of complications:

− Uncomplicated;
− Complicated.

In addition, as noted above, acute tonsillitis is divided into primary and secondary. Primary acute tonsillitis - ostrovospalitelnye disease, the clinical picture is that the leading element are symptoms of tonsillitis. Acute tonsillitis is a secondary lesion in the tonsils of acute infectious diseases (mainly in diphtheria, scarlet fever, tularemia, typhoid fever), and diseases of the blood system (primarily for agranulocytosis, leukemia).

The clinical picture

The incubation period for a. tonsillitis is 1–2 days. Acute onset.Almost within a day developing a complete picture of the disease – fever, fatigue, headache, aching joints, pain in the throat when swallowing. Often in the onset of the disease – fever, which lasts for 15 minutes – 1 hour, and then followed by a feeling of heat, in severe forms – chills repeated. Body temperature usually reaches a maximum level by the end of 1st day from the start of the disease and a 37,5–40ºC. Fluctuations between morning and evening performance

of body temperature greater than 1ºC, with a decrease in it – marked sweating. Duration of febrile period 3–7 days, and the treatment of effective drugs – no more than 2–3 days. More prolonged fever indicates complication. Dull headache, no localization and lasts for 1–2 days. Disturbed appetite and sleep. Symptoms of intoxication are generally correlated with the level of fever.

On examination, patients have facial flushing and neck, pale nasolabial triangle. The rash of angina is not typical, but in some cases it may be herpes rash on his face.

Symptoms of angina, the nature of pathological changes in lymphoid ring Pirogov nature of the disease depends on the clinical form of acute tonsillitis.

Catarrhal angina is characterized mainly superficial lesions tonsils and often precedes the deeper their defeat. Prodromal period lasts from a few hours to 2–4 days. The disease begins suddenly with a feeling of dryness, sore throat, general malaise, headache, pain in joints and muscles. Soon there is a pain in the throat, worse when swallowing. Can its irradiation in the ear. The body temperature rises slightly, but there may be chills. On examination tonsils hyperemic, edematous. Lymph nodes in the mandibular angle increased slightly painful on palpation. Changes in the blood are absent or negligible. The disease lasts for 1–2 days, after which the effects of inflammation in the throat or sore throat subsides goes to another form. Weather favorable.

Tonsillitis is characterized by a primary lesion of tonsillar parenchyma, their follicular apparatus. As well as lacunar, tonsillitis fever begins suddenly with fever up to 40ºC, severe pain in the throat. Pronounced symptoms of intoxication, patients worried sudden weakness, headache, pain in the heart, joints and muscles. Sometimes there is the phenomenon of dyspepsia, oliguria. Hyperemic tonsils, swollen dramatically. Through the epithelium of follicles shine festering as whitish-yellowish formations size of a pinhead. The surface of the tonsils, the figurative expression of NP Simanovsky, takes the form of «sky». Pronounced regionarny limfadenid. Changes in blood and urine are similar to those of lacunar tonsillitis. These forms of angina essentially represent different stages of the same process. Allocation is carried out according to the predominance of certain symptoms.

In addition to the tonsils in acute inflammation may be involved, and other clusters limfadenoidnoy tissue, in particular those in the nasopharynx (retronazalnaya angina tubarnaya angina), on the tongue (lingual tonsillitis or sore throat tonsils IV), on the side walls of the pharynx (tonsillitis lateral ridges), in larynx (laryngeal angina). Sometimes inflammation is poured, spread throughout limfadenoidnomu throat ring.

For acute inflammation characterized by pharyngeal tonsils sore throat, radiating to the deep divisions of the nose, nasal breathing is labored.

The defeat of the lingual tonsil with pain on swallowing and protruding tongue. Inflammation spreads to the connective tissue and intermuscular, can lead to interstitial purulent inflammation of the tongue.

In acute inflammation limfadenoidnoy tissue lateral ridges of the pharynx is usually a slight pain on swallowing, a slight increase in body temperature, Faringoskopy – redness and swelling of the lateral ridges, there can be seen festering follicles. Sometimes, the disease becomes rapid course, causing purulent mediastinitis.

Acute inflammation limfadenoidnoy tissue located at the entrance to the larynx and its ventricles – laryngeal angina, characterized by sharp pain when swallowing, swelling of the epiglottis, arytenoid cartilage area, erythema and swelling folds vestibule and vocal folds, constriction of the glottis. On palpation the larynx (the front and sides of the middle portion of the neck), there is pain. The disease may be associated with the phenomenon of choking (mechanical asphyxia), and in some cases require tracheostomy.

Lacunar angina begins with a sharp rise in temperature to 39–40ºC, with chills, significant malaise, sore throat, heart, joints, headache. May be a delay of a chair. Often there is increased salivation.

In pharyngoscopy – sharp hyperemia tonsillar swelling and infiltration. Gaps widened in them – a yellowish-white fibropurulent content, form on the surface of the tonsils soft plaque in the form of small lesions or film. Plaque can cover the whole amygdala, but does not go beyond it, dull, and rises above the surface of the tonsils. He porous, friable and relatively easily removed from the surface of the

tonsils, leaving a bleeding defect. Regional lymph nodes are enlarged, palpation are sharply painful. In the blood – leukocytosis to 12–20 x 10^3 in 1 ml, neutrophilic left shift, ESR 40–50 mm/h. The urine may appear traces of protein, sometimes – erythrocytes.

Lacunar tonsillitis usually lasts 5–7 days. During her stormy. Symptoms grow fast and also quickly subside. In decreasing of clinical manifestations of angina starts cleaning the tonsils of coat. Temperature falls politically. Swelling of the regional (neck? paramandibular) lymph nodes of other symptoms lasts longer – up to 10–12 days.

A special place among the primary acute tonsillitis is pseudomembranous angina, a clinical picture which was first described in 1890 by N.P.Shimanovsky. A few years later published data Plaut and Vincent about the pathogen of the disease – the symbiosis of the fusiform bacteria and spirochetes of the oral cavity.

Vincent's angina usually occurs in people with a sharp decline in the body's defenses, suffering hypovitaminosis C and B, immunodeficiency, cachexia, some intoxication, and is characterized by the predominance of inflammation phenomena necrosis. The defeat of the tonsils, usually unilateral. On their free surface appear Easy removable grayish-yellowish-ups, which are formed by rejection maloboleznennye superficial ulcers with gray bottom. Ulceration may spread to the tonsils of the soft palate, gums, back of the throat, down into the vestibular larynx. In some cases, the necrotic process can cover and underlying tissues down to the periosteum. The disease occurs at a relatively good general condition, accompanied by bad breath, drooling, pain when chewing, swallowing. On the affected side is developing regional lymphadenitis. The body temperature rises to subfebrile digits. Changing the composition of the blood usually comes down to a moderate leukocytosis, elevated erythrocyte sedimentation rate.

The diagnosis is confirmed when in the discharge of ulcers or film symbiosis fusiform bacteria and spirochetes of the oral cavity. Collection of material for laboratory studies should be made a loop on a glass slide. When taking a cotton swab can be negative due to the hygroscopic properties of cotton swab and drying on the swab.

Detection fuzospirohetoznogo symbiosis is not always possible to regard necrotizing process in the throat as pseudomembranous angina. Please keep in mind the possibility of joining fuzospirohetoznogo symbiosis with other ulcerative processes, such as ulceration cancer, angina in leukemia, agranulocytosis, chlamydia, radiation pharyngitis. In 10% of cases of pseudomembranous angina occurs in combination with diphtheria.

Severity and nature of the pathological changes in the organs and systems of angina depends on the severity of the disease and complications.

Angina always, to some extent, in the pathological process involves the cardio-vascular system. In patients observed tachycardia, arrhythmia, weakening tone and function of the heart sounds on auscultation. Almost all patients have declined in ECG voltage teeth, ST-segment above contour, rhythm and conduction disturbances. Many patients have a perverse reaction to physical stress: the mild exertion stroke and cardiac output does not increase, as is observed in healthy, but rather decreases. It is important to emphasize that all of these changes in the cardiovascular system, often do not occur in the acute stage of the disease and during convalescence and persist from a few weeks to several months.

Trachea and bronchi with angina are not affected.

Liver disease with angina is not typical. However, in the acute stage in severe in some patients it is possible to identify a moderate increase, pain on palpation of the xiphoid process (symptom Lyakhovitskii), muscle tension in the anterior abdominal wall of the projection area of the gallbladder (symptom Glinchikova), pain in the same area on inspiration from pre-fixing her right thumb (symptom Murphy) and some other symptoms indicating mild expressed cholangiohepatitis. All of these changes are due to infectious and toxic factors, the duration – short-term. Splenomegaly with angina is very rare, and mostly severe. When resistant (2–3 days), and a significant increase in the spleen, to examination of the patient in terms of exception conditions for which, along with other symptoms characteristic of tonsillitis and splenomegaly (a blood disease, infectious mononucleosis, etc.).

Renal disease with angina is often the case. Revealed certain changes in urine – oliguria, nocturia, moderate proteinuria, leukocyturia, microhematuria, cylindruria. Observed in acute tonsillitis urinary syndrome is not a complication, but one of the manifestations of the disease and is caused by an infectious-toxic influence.

Pronounced changes in the gut with angina does not happen. However, the proportion of patients in the acute stage momentary delay chair (within 1–3 days). Violation of motor function of the colon due to the impact of microbial toxins. 1% of patients with angina may develop acute appendicitis, probably due to a streptococcal etiology of hematogenous drift from the oropharynx.

When laboratory blood of patients with angina observed neutrophilic leukocytosis (up to 9 20h 109/L, relative lymphopenia, monocytosis accelerated ESR. Tendency to normalize blood counts and ESR appears only on 5–7 days of normal body temperature, but most of convalescents ESR remains elevated in a later period the biochemical blood analysis disproteinemia (reducing the concentration of albumin and albumin-globulin ratio), increased CRP levels of sialic acids and seromucoid, increased fibrinogen. Changing these indicators due to inflammatory and destructive processes in the body and, to some extent, reflects their severity, as well as observed in the development of such complications of angina, as myocarditis and acute rheumatic fever. In practice, the definition of these parameters is important not only for the diagnosis of angina and assess the severity of disease, but rather to monitor the full recovery and early detection of these diseases metatonsillar.

Bacteriological examination of the surface microflora of tonsils in streptococcal angina revealed continuous growth of beta-hemolytic streptococci on 5% blood agar.

For serological study of paired sera collected in the first and 10–12 days, found an increase in antibody titer to streptolysin-O, streptokinase, streptococcal polysaccharide.

Determine the severity of angina to the general and local changes in the body, and are critical systemic toxicity violations - the height of fever, disorders of the nervous, cardiovascular, and other vital organs and systems. The degree of local changes in the throat

usually correlates with the severity of the general intoxication.

Mild form of angina is characterized by low-grade fever in the body for 2–3 days, mild fatigue, mild pain in the throat when swallowing, catarrhal or follicular tonsillitis character, an increase of up to 1 cm in diameter uglochelyustnyh lymph nodes and moderate their pain. Symptoms of kidney disease is low (poorly defined urinary syndrome). Blood tests – indicators of inflammation – in the upper normal range.

Moderate form of angina is manifested by increased body temperature to 38,1–39ºC during the first 4–6 days, significant intoxication (fever, fatigue, headache, muscle and joint pain, impaired appetite and sleep), severe pain in the throat swallowing, severe local changes (hyperemia of the palatine arches, uvula and tonsils, a large number of purulent follicles on the surface of the tonsils or pus in the gaps), an increase uglochelyustnyh lymph nodes up to 1,5–2 cm in diameter and the severity of their tenderness. May be short-term increase in liver size and tenderness to palpation its edge, impaired protein and carbohydrate its function. The kidneys – more severe and persistent symptoms of urinary symptoms. In the analysis of the blood – a moderate leukocytosis (up to 10–18 x 109 / L, increased erythrocyte sedimentation rate of 20 mm/h, a moderate increase in the sialic acid, CRP, seromucoid. Clinical signs persist for 5 to 6 days.

For *severe angina* is characterized by sudden weakness, severe headache, dizziness, loss of appetite, insomnia, periodic fever, succeeded by a feeling of heat, sweating. Temperature exceeds 39ºC. Tonsillitis is characterized by constant pain in the throat, worse when swallowing, severe hyperemia tonsils, extending not only to the palatal arch and tongue, and the soft palate, a large amount of pus in the gaps. In some cases, tonsillitis is necrotic nature. Uglochelyustnye lymph nodes are enlarged to 2,5–3 cm in diameter and sharply painful. In 25% of patients have a short-term increase in the liver and the violation of its functions, in some patients, increased spleen. The absolute majority of patients show signs of kidney damage. Leukocytosis in the blood is in the range 16–24 x 109 / l, ESR increased to over 30 mm h.

From a theoretical and practical point of view it is important to

allocate the *primary, relapsing* and *secondary* angina. These forms of the disease have similar clinical manifestations, but differ in etiology, pathogenesis and outcome.

Immune responses after undergoing angina fade gradually and disappear completely in just 2 years. This period of time and should be a criterion that allows diagnosis to first and second form of the disease. *The **primary** is angina that occurred for the first time or develop after 2 years after previously postponed. **Relapsing** angina in people who suffer from it every year or at least once every 2 years.*

Strep throat is accompanied by the formation of autoimmune and immune-complex processes, which play an important role in the occurrence of diseases metatonsillar. When re-streptococcal tonsillitis newly formed immune responses superimposed on the medical history and increase their. Therefore, relapsing angina more often and much more intensive autoimmune and immunopathological reactions, and much more likely to have diseases such as myocarditis, nephritis, etc., than the primary.

Secondaryangina – angina, which is a symptom of another infection (scarlet fever, diphtheria, infectious mononucleosis, tularemia, etc.) or non-infectious diseases (acute leukemia, agranulocytosis).

Complications and adverse outcomes

The most important in a practical complications of angina are tonsillar abscess, and paratonzillit paratonsillar abscess, cervical lymphadenitis and neck abscess, meningitis, mediastinitis, sepsis. Adverse outcomes, the so-called metatonsillar (tonzillogennoy) diseases developing after undergoing angina include chronic tonsillitis, acute rheumatic fever, myocarditis, myocardial tonzillogennoy, jade, holangioholetsistit. Doctors, especially district internists need to know the clinical features of the disease, to be able to foresee the possibility of their development in order to conduct timely preventive measures.

Abscess tonsils (tonsillar abscess) - are relatively rare, but quite threatening complication. Usually occurs at 3–4th day of the disease with moderate or severe sore throat, accompanied by a pronounced inflammation of the tonsils, joined by a staphylococcal infection causing purulent fusion of the affected tissues within the amygdala.

Against the background of perceived at that time improvements in the patient's condition suddenly the body temperature rises to 39ºC or more. Often repeated shivering, followed by a feeling of heat. Rapidly increase the toxic symptoms of central nervous system – general weakness, headache, pains in the back, muscle pain, anorexia, insomnia. Simultaneously, there is a sharp increase or that existed before, sore throat with one hand. Unlike pain in uncomplicated angina, she worried sick and alone. When viewed from the oropharynx than typical angina changes, there is a significant increase in the size of the amygdala on one side and the corresponding location of the emerging abscess. The infected tonsil almost covers half the throat, has smoothed the gaps, more sharply hyperemia compared with the second tonsil, often acts anteriorly or posteriorly (depending on the location of the abscess) and sharply painful when touched. On the same side dramatically enlarged and painful lymph nodes uglochelyustnye. In peripheral blood characterized by leukocytosis of 18–25 x 109 / L, neutrophilia to 78–85%, ESR increase to 30–40 mm and over/h.

Described similar clinical symptoms characteristic paratonzillita paratonsillar and abscess, but there are differences. When tonsil abscess no lockjaw masticatory muscles, mouth opening is free, there is no inflammatory infiltration of the anterior arch and the soft palate on the same side. For 3–5 days of the onset of signs of an abscess in a limited area of the affected tonsil superficial abscess appears as a yellowish-whitish protrusion. When you do not surgery, the abscess in the next 2–3 days revealed themselves. An autopsy is carried out through a gap tonsils, usually during sleep, unnoticed by the patient. After opening the abscess relatively quickly, within 2–3 days, normal body temperature, the symptoms of intoxication, reduces the size of the affected tonsil. However, changes in the blood (leukocytosis, high ESR) saves up to 2–3 weeks.

Paratonzillit, paratonsillar abscess are stages of the same inflammatory process that develops as a result of the penetration of pathogens in angina okolomindalikovuyu fiber. Initially, there are inflammatory edema and cellular infiltration of the affected tissue - paratonzillit, then it is purulent melting and forming paratonsillar

abscess. Paratonzillit and paratonsillar abscess may develop as the mild and severe disease. This generally occurs in people with frequent episodes of angina. They sharply reduced local (tonsillar) immunity, and will break the barriers in the capsule of the tonsils, thus creating favorable conditions for the spread of disease pathogens in paratonsillar fiber and its involvement in the inflammatory process with subsequent formation of an abscess.

Tonsillar abscess and paratonsillar have similar symptoms: the background of relatively satisfactory condition, the patient re-angina, sudden increase in body heat to high numbers with a fever, with symptoms of severe general intoxication, unilateral severe pain in the throat when swallowing, and even at rest radiating to the ear or teeth on the affected side. Pain also increases with spitting and moving head to the side. Often develop increased salivation. Patients are forced to take the position with tilt head forward, to promote self-draining of saliva from the mouth. Because of the spread of the inflammatory process with okolomindalikovoy the soft palate tissue violated its mobility, which leads to a change in voice, he becomes nezvuchnye with a nasal tone. When paratonsillar abscess is present is often a lockjaw masticatory muscles, which manifests in the difficulty and limited mouth opening. Spread of the inflammatory process in the lymph nodes and tissues of the neck is accompanied by pain in them, growing moving neck. Because of this, patients have to tilt your head to the affected side and keep it there motionless (state torticollis).

Patients with mouth and paratonsillitis and paratonsillar abscess spreads nasty putrid smell. When there is a one-way pharyngoscope hyperemia, infiltration, edema and swelling in paratonsillar of the possible spread of the soft palate and uvula, and the offset to the center of the affected tonsil asymmetry and uvula.

Peripheral blood - similar as in tonsillar abscess.

Parafaringeal flegmona, parafaringeal abscess develop in patients with paratonsillar abscess. The symptoms characteristic of paratonsillar abscess toothache joins a hearing loss due to damage and twigs n.alveolaris inferior pharyngeal part of the auditory tube. When viewed from the side of the throat swelling of the affected side is detected tissues, often extending into hypopharynx. There is swelling

and tenderness of the affected soft tissues of the neck, mainly in the upper part of the sternocleidomastoid muscle and uglochelyustnoy area. Often these changes in the cervical lymph nodes located along the neurovascular bundle from the mastoid process to the clavicle.

Purulent inflammation of the neck lymphatic nodes – an extremely rare complication of tonsillitis. It is preceded by a significant increase of nodes (up to 4 cm in diameter), accompanied by severe morbidity, and then there is their softening and appears symptom fluctuation. Without prompt surgical treatment – formed fistula.

Spread of parafaringealnogo space base of the skull into the mediastinum or in the blood leads to the generalization of infection and causes meningitis, mediastinitis, sepsis.

On the development of ***meningitis*** may indicate the appearance of the background of high fever and severe intoxication, arching nature of headaches and symptoms of lesions of the meninges - photophobia, hypersthesia, hyperacusis (hypersensitivity to auditory stimuli), nausea, vomiting, neck stiffness, Kernig symptoms, Brudzinskogo - upper, middle and lower.

Mediastinitis is the result of the spread of pus parafaringealnogo space along the neurovascular bundle in the mediastinal tissue. In this case, the patient's condition deteriorates, increased toxicity (severe fatigue, headache, dizziness, insomnia), significantly increased swelling and tenderness of soft tissues across the side of the neck. There are signs of compression of the mediastinum (esophagus, larynx, trachea).

Tonsillar sepsis occurs in a sharp decline in the local (tonsillar) and total body resistance and is accompanied by a rough generalization of agents with the formation of secondary foci of their localization, reproduction and re-generalization.

The dramatic suppression of local and general immunity most often caused by long-term recurrent illness (diabetes, asthma, systemic connective tissue disease, etc.), prolonged use of corticosteroids and other immunosuppressive drugs, or exposure to macro-microbes themselves.

Streptococcal sepsis, an acute onset. A patient with angina, often complicated paratonsillar abscess, several times a day marked a

stunning chill, accompanied by an even more significant increase in body temperature, the appearance of sharp weakness until adynamia, thirst, severe headache, pain in the large joints, myalgia. Body temperature during the day exposed to large fluctuations. The temperature profile is incorrect, hectic and sometimes permanent. Lowering it is accompanied by profuse sweating, disappearance artalgy and myalgias.

The patient's face is pained expression. Ashy-gray skin with cyanotic or yellowish tint. Sometimes there is a rash of hemorrhagic or type of hives.

Paramandibular lymphatic nodes are enlarged and tender. Can be affected by other perednesheynye nodes.Revealed swelling and tenderness of tissues adjacent to the front surface of the sternocleidomastoid muscle.

Lips dry, cracked, mouth – unpleasant putrid odor. Tongue dry, covered with white or brown tinge. Changes in the oropharynx depends on the phase of the disease with angina. Sepsis can develop to the stage of recovery, then it will be observed only diffuse redness of the mucous membrane oropharynx.

Almost always reveals a heavy defeat of the cardiovascular system (thready pulse, tachycardia, arrhythmia, hypotension, expanding the boundaries of the heart, ECG changes typical for myocarditis) and respiratory system (shallow rapid breathing, secondary screenings pus in the lungs).

Revealed liver enlargement, the edge of her tight and painful.Palpable spleen at the costal arch, soft, painless.

In the analysis of peripheral blood is anemia, neutrophilic leukocytosis with a shift to the left, significantly accelerated ESR.

Chronic tonsillitis is a consequence of repeated sore throats, especially when they occur in short intervals of time, during which the body does not have time to completely eliminate the local inflammatory changes in the tonsils and disorders in other organs. However, under certain conditions, chronic tonsillitis can emerge as the primary slowly progressive disease. In the development of chronic tonsillitis leading role played by reduced local (tonsils) and the total resistance of the body, the effects of cold and other adverse factors, not germs as angina.

Chronic tonsillitis is fundamentally different from angina in pathogenesis of local and systemic disorders, clinical symptoms, outcomes, principles and methods of treatment and prevention.

Chronic tonsillitis long flowing inflammation of the tonsils leads to the replacement of the parenchyma by connective tissue, the formation of adhesions of these bodies to palatal temples, as well as the gaps between the walls. This violates the evacuation of the gaps microbial saprophytes ottorgnuvshihsya epithelial cells, tissue fluid and other substances. Accumulation of the products of inflammation in the gaps accompanied their cone-shaped extension, thinning or complete disappearance of the surface epithelium. In this connection, facilitated absorption of content gaps and keep germs inside the tonsils. When complete obliteration of the mouths of lacunae form a closed cavity (retention cysts), which accumulate pathological substrates. The above changes in the tonsils promote a low-intensity of the inflammatory process, which under certain conditions may worsen. Accumulated in the gaps of the deformed products of microbial and inflammatory origin are able to provide not only local, but the overall effect on the body. Being absorbed into the blood, they can determine the appearance of symptoms of intoxication – general weakness, decreased performance, artalgii, subfebrile body temperature, etc. (decompensated form of chronic tonsillitis).

Microbial penetration into the parenchyma of the tonsils leads to the fact that in different parts of the fabric of these bodies meet single or multiple mikroinfiltraty, the center of which may appear microabscesses. Periodic formation in different parts of the tonsils leads to the gradual disappearance of the lymphoid follicles and their replacement with scar tissue. Penetration of microbes and their metabolic products in the lymph path leads to the defeat of the regional (angular) for tonsil glands. They become enlarged, and an exacerbation of the process and painful. In the long lymphadenitis or part of a lymph node recurrence germinate connective tissue, which gives them a dense texture.

Symptoms of chronic tonsillitis polymorphic.Along with symptomatic forms of the disease, often virtually asymptomatic. Patients may complain of discomfort or recurrent moderate pain in the throat when swallowing, blurred pain uglochelyustnyh nodes,

palpitations, irregular heart function, false angina, hot flashes, etc. The objective changes may also have a different picture. Tonsil size in patients with chronic tonsillitis have no diagnostic value. Lumpy nature of the surface of tonsils also very relative. Relative diagnostic importance is fusion of the palatine arches with almonds. Reliable sign of the disease is the combination of these changes with edema and congestive hyperemia palatine arches, due to a violation of local blood and lymph circulation in the tonsils and surrounding tissues, and the presence of caseous-purulent (yellowish-white) masses in the gaps of scar-modified tonsils. Changes in chronic tonsillitis tonsils resemble lacunar tonsillitis with lacunar angina. However, unlike angina, chronic tonsillitis missing all her other symptoms (fever, severe intoxication, inflammatory tissue changes tonsils – redness, swelling, abundant on the surface of fluid).Content gaps in chronic tonsillitis has a relatively dense consistency and stored for an unlimited time.

Blood picture in chronic tonsillitis in most cases does not change.

In the pathogenesis of chronic tonsillitis play a significant role of neuro-reflex mechanisms. Pathological process in the tonsils accompanied by severe degenerative changes in the vagus nerve and the sympathetic ganglia, which is reflected in the functional status of innervated organs and systems. First of all, it concerns the cardio - vascular system. Significant changes in the tonsils in chronic tonsillitis rarely correlate with common manifestations of the disease. Even when there is scarring of the tonsils and the formation of adhesions to palatal temples, constant presence of pus or cheesy masses of dense fluid in the gaps, expressed lymphadenitis patients usually do not experience any trouble.

There are two clinical forms of chronic nonspecific tonsillitis (by I.Soldatov) – compensated and decompensated. *Compensated chronic tonsillitis* has only local (on the tonsils) manifestations. *Decompensated chronic tonsillitis* is characterized not only by changes of the tonsils, but expressed general symptoms (low-grade fever, fatigue, decreased performance, artalgii etc.), frequent exacerbations of the disease, in many cases – the presence of conjugated diseases.

Myocarditis develops in primary angina in the early days of the

period of convalescence, and when re-from the first days of illness. When it is caused by streptococcal angina allergic and infectious-toxic factors. The typical picture of myocarditis occurs in only 1/3 of patients: general weakness, fatigue, discomfort or pain in the heart, casual low-grade temperature of the body (mainly in the evening and at night), the lability of the pulse with a tendency to tachycardia, muted tones of the heart, systolic murmur at the apex. Marked ECG changes: extension segment PQ, changing the shape and direction of the T wave, offset segment ST. In the analysis of the blood is neutrophilic leukocytosis, accelerated erythrocyte sedimentation rate, increased C-reactive protein (CRP), sialic acid aminotransferase, lactate dehydrogenase (LDG).

However, most often the only signs of myocarditis are persistent ECG changes indicating a focal disease of the heart muscle and inconsistent changes in blood tests: the upper limit of normal or slight increase in white blood cell count and ESR, increased CRP, sialic acid, 1-2nd fractions LDH.

Tonsillogenic myocardiodistrophy developed in patients with recurrent and chronic tonsillitis, is one of non-inflammatory disease of the heart muscle. Factors causing myocardial dystrophy include:

− Cardiotoxicity streptolysin O produced by Streptococcus;

− Allergy to streptococcus antigens and autoimmune reactions associated with the appearance of autoantibodies antikardialnyh;

− Tonsillitis-cardiac reflex, leading to changes in the blood vessels and muscle fibers of dystrophic myocardium.

− Schematically pathogenesis tonzillogennoy myocardiodystrophy can be represented as follows:

recurrent angina (chronic tonsillitis)

↓

abnormal afferent signals in the higher parts of the CNS

↓

violation of the autonomic regulation of the heart

↓

change in the balance of neurotransmitters in the myocardium (epinephrine, norepinephrine, acetylcholine)

↓

violation of oxidative phosphorylation and the development of

myocardial hypoxia
↓
disorders of energy
↓
transition to glycolytic pathway exchange
↓
anxiety disorder and electromechanical coupling in the myocardium
↓
disorder and rhythmic contractile function of the heart.

Biochemical and structural changes in the heart muscle during tonzillogennoy myocardiodystrophy reversible.

Clinically, there is pain in the apex of the heart, stabbing or aching nature, long-term, often intense, sometimes radiating to the left shoulder girdle, shoulder blade, shoulder. The pain associated with lesions of the cervical and upper thoracic sympathetic nerve plexus. In addition, patients complain of fatigue, general weakness, growing in the second half of the day, a sense of dissatisfaction with breath that occurs most often at rest and decreases markedly during physical stress or distraction. Rarely observed shortness of breath, palpitations, feeling of disruption of the heart.

Objectively in patients with moderate tonzillogenic myocardiodystrophy are expanding the boundaries of the heart to the left, I weakening tone at the top, soft tone, blowing, weak or moderate systolic murmur at the apex of the heart, often disappearing after exercise and does not conduct in the left armpit. At the base of the heart often auscultated systolic murmur, which is often a wire from the top. Of the pulmonary artery can focus listens and splitting II tone.

On the ECG recorded dysfunction automaticity and conduction. Marked decrease in the amplitude of P wave and T wave less R,-segment ST. ECG test with potassium and obzidanom – positive.

Changes in blood tests for maloharakterny myocardiodystrophy, rather they reflect the activity of the inflammatory process.

Nephritis occurs mostly after a sore throat caused by β-hemolytic streptococcus group A, the so-called nefritogennymi strains. Development of nephritis is the time of formation of autoimmune (against kidney tissue) and immunopathological factors – 5–6 days of normal body temperature (8–10 days of the disease. Most

nephritis after undergoing angina occurs without extrarenal symptoms. Sole manifestation of it may be urinary syndrome: proteinuria, hematuria, leukocyturia and often cylindruria.

It should be noted that small changes in the urine are observed in the recovery period in patients who have had a sore throat, quite often the result of infection and renal toxicity during the acute period of the disease. An important feature of these changes is that they are short-term and repeated examination of the urine for 10–12 days of normal body temperature are no longer registered. In the case of jade changes in urine are persistent.

The incidence of nephritis in angina is largely dependent on the type of etiotrop treatment, but even more it is associated with the etiology of the disease and the presence of frequent repeated sore throats in the past.

Cholangiocholecystitisis common consequence of angina, especially relapsing angina. Clinically it is manifested slight increase in liver size and the presence of gall bladder symptoms – Musso, Ortner, Murphy, Kerr, etc. In the study of duodenal contents found clumps of mucus and increased number of white blood cells.

Cholangiocholecystitis phenomenon in patients undergoing primary angina usually pass quickly, in people with recurrent angina, and frequent exacerbations of chronic tonsillitis may be permanent in nature.

Diagnosis of angina.

The diagnosis of angina is based on clinical, clinical and laboratory data.

Supporting differential diagnostic symptoms of streptococcal sore throat (on Lobzina Yu et al., 2000):

- Predominantly young age;
- Characteristic epidemic anamnesis;
- Acute sudden onset with chills, high fever, intoxication;
- Sharp pain when swallowing.

Proper planning of treatment strategy dictates the need for at least a minimum set of paraclinical examinations, which must include:

- Complete blood count (to exclude infectious mononucleosis and blood disorders) – changes are nonspecific: neutrophilic leukocytosis, elevated erythrocyte sedimentation rate;

− Urinalysis (to avoid jade) – short-term notes albuminuria and pyuria;

− Blood chemistry (often used to diagnose complications and adverse outcomes) – increase of CRP, sialic acid, seromucoid, asl-o, etc.);

− Swab of the oropharynx and nose with a border of inflamed and healthy tissues (for the differential diagnosis of diphtheria, to highlight the microflora and its sensitivity to antibiotics): isolation from the surface of the tonsils and throat mucous membranes of microorganisms is of little diagnostic value, because healthy people often found a variety of representatives of both opportunistic and pathogenic organisms. The value of this study is increased by determining the number of pathogens at the site of abnormality. However, due to complexity of this research is rarely done.

− ECG.

− Consultation on the testimony of the otolaryngologist and other professionals.

Methods for specific diagnosis of β-hemolytic streptococcus group A (BHSA) include:

− Allocation of pathogen culture swabs from the surface of the tonsils;

− Rapid diagnosis of streptococcal antigen;

− Immunoserologicheskoe study.

Cultural method – collection of material with a cotton swab with immediate transferring it into the medium – as should be done with angina to prevent diphtheria, suspected specific infections, with the ineffectiveness of empirical antibiotic therapy. Sensitivity 90%, specificity – 96–99%.

The method of *rapid diagnosis* BHSA based on the identification of streptococcal antigen in smears by its enzymatic or acid extraction followed by agglutination, demonstrating the formation of a complex «antigen-antibody». The advantage of the method is the fastest results, efficiency, high specificity (95–100%) and the ability to restrict the use of antibiotics to cases of the disease that requires eradication BGSA. However, the method has a wide sensitivity range – 50–95%.

Immunoserological diagnosis is based on the detection of elevated

antistreptolysin titer, anti-DNase ß-antistreptokinase antistreptococcal and other antibodies. This method is more specific for streptococcal infection, but sensitivity decreases sharply against antibiotics.

According to the recommendations of the American Academy of 2002, the indications for microbiological studies to identify BGSA acute tonsillopharyngitis based on the presence and severity of the four main characters: a coat on the tonsils, painful cervical lymph nodes, fever and no cough.

The differential diagnosis

Angina should be differentiated from flu and acute respiratory viral disease, acute pharyngitis and measles, as well as with secondary acute tonsillitis, that is, with a sore throat for infectious diseases such as diphtheria, scarlet fever, tularemia, typhoid fever, and in diseases of the blood system – infectious mononucleosis, agranulocytosis, leukemia. Differential diagnosis of primary acute tonsillitis, you should always be mindful of possible defeat in the throat early contagious syphilis and tuberculosis. Differentiation is done by comparing the clinical features of these diseases, and laboratory results.

Influenza is characterized by: a short incubation period (from a few hours to two days), acute onset, severe intoxication. Catarrhal symptoms runny nose – rhinitis, cough, sore throat or pain when swallowing, etc.)often delayed by 1–2 days, or do not occur. Characterized nasopharyngitis, laryngotracheitis, tracheitis, tracheobronchitis. Hyperemia throat varying degrees in all patients is often combined with granulosa pharyngitis on the back of the throat and fine-grained tongue and soft palate. In Blood – leukopenia, ESR is normal, sometimes moderately increased.

Parainfluenza infection is characterized by symptoms of intoxication, and catarrhal syndrome, which occurs by type rinofaringolaringita. The incubation period – 3–4 days. Onset of the disease – a subacute, symptoms grow to 02.03 day of illness. Moderate intoxication syndrome, intensity increases by the 3rd day of illness, duration – 1–6 days or more. Catarrhal symptoms in the first hours of the disease and lasts 8–10 days.Observed moderately severe flushing handles, the tongue, dry and grainy mucosa of the pharynx. The mucous membrane of the tonsils, and the tonsils themselves rarely affected. In peripheral blood normocytosis with a tendency to

lymphopenia. ESR is normal or slightly increased.

Adenovirus infection is characterized by a variety of clinical manifestations. Any of the clinical forms of its characteristic set of symptoms of acute respiratory illness and other losses – keratoconjunctivitis syndrome, angina, poliadenopatiya, gepatolienalny syndrome, etc.

Onset of the disease in most patients with acute, the body temperature to the 2–3rd day reaches 38–39°C, rare – 40°C. The disease may begin gradually, then the heat only comes to the 4th day of illness. The rise in temperature is often accompanied by a slight fever, or a short-term chilling. Fever in typical cases it is long – about 6 days or more, sometimes up to 2–3 weeks. The temperature profile is constant or remittent character, may be two-wave or periodically subfebrile through consistent involvement in the pathology of other organs.

At the height of the disease the symptoms of intoxication are mild or moderate: slight weakness, headache, muscle and joint pain. Catarrhal symptoms of the upper respiratory tract develop in the first few days of illness. In most patients, there is congestion with abundant serous or sero-purulent discharge. In contrast to the banal angina at 1–3-day sickness appears conjunctivitis, which is more often catarrhal, at least – follicular and filmy. When viewed from the mouth marked diffuse hyperemia, granularity of the soft palate and the posterior pharyngeal wall. Characteristically catarrhal or follicular lesion lacunarity tonsils with submandibular and cervical lymphadenitis. When adenovirus infection can be observed abdominal pain, diarrhea, liver enlargement, at least – the spleen.

In the blood was small leukocytosis, in some cases, leukopenia, neutrophilia, normal or elevated ESR. For the specific diagnosis of adenovirus infection are widely used RAC and HAI in paired sera.

Infection caused by ***respiratory syncytial virus***, is characterized by mild symptoms of intoxication and a primary lesion of the lower respiratory tract. Moderate headache in the fronto-temporal or occipital region, fever, chills, nausea, vomiting, and tend to be in the early days of the disease. Syndrome of intoxication lasts from 1 to 7 days. Catarrhal symptoms rather scanty: rhinitis occurs in one third of patients, moderate hyperemia throat – in almost all patients. Duration catarrhal syndrome 4–6 days.In 10% of patients the effects

of bronchitis with asthmatic component. In the blood – eosinophilia, neutrophilic shift to the left of the formula for the normal number of white blood cells.

In ***rhinovirus infection*** incubation period is 1–6 days, no prodromal symptoms, intoxication is weak: malaise, «chilling», dragging pain in the muscles, heaviness in the head, low-grade fever. Rhinitis in the first hours of the disease, first mucus, sometimes profuse, watery consistency, then thicker seromucous. Hyperemia of the throat and the back of the throat is expressed slightly more often the process is limited bows. It is sometimes swelling of the mucous and «grain» of the soft palate. Often there is conjunctivitis. Hematologic abnormalities sometimes appear small leukocytosis.

Coronavirus infection, especially mild, like a clinic rhinovirus infection and is characterized by profuse watery discharge from the nose. Among other catarrhal symptoms observed intense sneezing, at least - a cough. An objective examination of observed redness and swelling of the mucous membranes of the nose, flushing of the oropharynx. Intoxication symptoms are mild, increase in body temperature, usually not observed or not higher subfebrile. May be affected by the lower respiratory tract by type of acute bronchitis.

Mycoplasma infection is characterized by polymorphism of clinical symptoms, moderate toxicity, moderate or mild catarrhal symptoms, which occur in two clinical variants: acute respiratory infections and pneumonia. The incubation period lasts from 1–8 up to 25 days or more. The gradual onset of the disease with symptoms of intoxication that peak at 2–7 day and keep from 3 to 10 days. Catarrhal syndrome manifested primarily rhinopharyngitis, faringobronhitom. In the acute phase is often determined by an increase in the submandibular, cervical, axillary and inguinal rarely, lymph nodes. Mycoplasma pneumonia often develop within the first three days of the disease, combined with symptoms of ARI. Pneumonia often patchy, physical symptoms of poor and inconsistent.

Acute respiratory disease occurs with pronounced symptoms of rhinitis, rhinorrhea. Body temperature is usually not reach high numbers, absent or mild symptoms of intoxication.

In ***acute*** or in ***exacerbation of chronic pharyngitis*** the general condition does not suffer, do not bother the patient pain, and the

feeling of irritation, sore throat or interference, which manifests itself in the «empty» throat and disappears when taking thick or solid food. The disease can appear suddenly and disappear just as suddenly, last a few minutes, hours or weeks or months, if not eliminate the causative stimulus. Relief comes usually after receiving a warm non-irritating foods. On examination of the pharynx revealed relatively inflammatory changes in the mucous membranes, but it is predominantly back and side walls, in the form of congestion and moderate edema moderately. Regional lymphadenitis is usually absent, rarely occur in a subclinical form.

Diphtheria of throat. The greatest difficulty for professionals of all skill levels, including infectious diseases, causes diagnosis of diphtheria throat. This is due to the severity of the disease and its complications, the timing of the early etiotrop treatment (serotherapy) that will often depend on the patient's life.

Depending on the extent of the local process and degree of general intoxication are three main forms of diphtheria throat:

1) localized (fibrinous coating is within the tonsils) subdivided into ostrovchatuyu, filmy (solid) and bluetongue,

2) common, in which attacks go on palatal arch, the tongue or the back of the throat, and

3) the development of a toxic edema of the throat and neck subcutaneous tissue.

Localized form of diphtheria throat unlike catarrhal angina begins gradually. Body temperature is usually less than 37,5–38°C. Patients concerned about the general weakness, loss of appetite, heaviness in the head, mild sore throat.

When *island form* of diphtheria during moderate intoxication tonsils are enlarged and hyperemic (congestive hyperemia with a bluish tint), on the surface there are islands of fibrinous coats (film), which is slightly above the back of tonsils and can not be removed with a spatula.

In *filmy form* of diphtheria against congestive hyperemia of the mucous membranes of tonsils, palate, soft palate arches and the tonsils are found solid fibrinous coats white and grayish-white in color with a smooth surface and well-rounded edges. Plaque is removed with difficulty, and the subiculum bleeds. Previous film is pulverized

between spatulas, insoluble in water and slowly settles to the bottom of the vessel. Regional lymph nodes are moderately enlarged and painful on palpation. The fever lasts for several days, but after normalization of temperature condition of the patients is not improved.

Catarrhal form of diphtheria at the throat, which should be differentiated from catarrhal angina, there is no characteristic symptom of the disease – fibrinous plaque. Leading symptoms – gradual onset, mild redness and some swelling of the tonsils. Body temperature is usually not increased, no toxic symptoms. Diagnosis in such cases is only possible on the basis of epidemiological data, and detection of toxigenic diphtheria bacilli for bacteriological examination of mucus from the nose and throat.

Under the influence of serotherapy in 24 hours film as it rises above the mucosa, no further spreading, and disappears in 2–3 days. Without the introduction of diphtheria serum disease progresses – symptoms of intoxication are increasing, coats beyond the tonsils, developing common or toxic diphtheria throat.

Common form of diphtheria throat often develops from a localized and rarely alone. Disease begins acutely: the body temperature rises to 38,5–39°C, symptoms of intoxication – general weakness, fatigue, headache, drowsiness, and sometimes vomiting, pallor, tachycardia, cardiac muted tones. Against the background of congestive hyperemia and enlarged tonsils are found on the surface of solid fibrinous coats, which apply to the tongue, palatal arch, the back of the throat, which is not typical for primary angina. Color plaque may be whitish-gray, dirty yellow, depending on the duration of the disease. The regional lymph nodes are enlarged to the size of a large bean, painful on palpation, but the cervical tissue swelling does not happen.

The *toxic form* of diphtheria throat sometimes devel is a localized, but most often occurs from the beginning as toxic. In most cases, it starts rapidly: the body temperature rises to 40°C or more, headache, severe fatigue, insomnia, anorexia, sore throat, vomiting, and can be a pain in the stomach. From the first hours of the disease marked diffuse redness and swelling of the mucous membranes of the oropharynx, which often precede attacks. Soft palate, uvula and arch swollen. With a pronounced swelling of the tonsils are touching.

Especially swollen and enlarged tongue, he squeezed and disadvantaged enlarged tonsils, causing the back of the throat examination difficult. The coats are initially delicate weblikefilm, which is easy to remove, and then reappears. After 2-3 days of onset coats become dense, thick, dirty-gray color, fully cover the surface of the tonsils, moving to the bow, the tongue, soft and hard palate. Hyperemia of oropharynx at this time is reduced, they become bluish tint, swelling reaches its maximum development. Tongue coated, lips dry, cracked, mouth feel peculiar sweet, sickly smell. Nasal breathing is difficult, from the nose appear sukrovichnye allocation, macerate the skin in front of the nose, some patients show a film on the nasal septum. Voice is weak with a nasal tone.

Along with the development process in the throat occurs regional lymphadenitis – increase verhnesheynye lymph nodes, sometimes forming large conglomerate. On palpation it is elastic and painful. There is swelling of subcutaneous tissue, the skin color of edema is not changed and it is painless during pressure and leaves no holes. The prevalence of cervical subcutaneous tissue edema corresponds with severity of intoxication. Therefore, depending on the degree of swelling are three degrees of toxic diphtheria:

I – spread to the middle of the neck swelling,

II – to the clavicle,

III – below the collarbone.

At *subtoxic form* throat diphtheria intoxication moderate, coats are located mainly on the tonsils and rarely applied to the tongue, soft palate, the back of the throat. Swelling of the cervical tissue are usually mild and mostly reaches the submandibular lymph nodes, swelling of the tonsils and soft palate at otdelnyx patients can be clearly expressed (edematous form). The coat on the tonsil tissue and swelling of the neck is often one-sided.

Objective picture in the throat with toxic diphtheria looks like paratonsillar abscess. And unlike these diseases with toxic diphtheria is no express lockjaw and the patient is able to open his mouth, which allows for inspection of the horny part of the pharynx. When paratonsillar abscess patient fails.In addition, when quinsy in contrast toxic edema pronounced inflammatory response, a significant increase in regional lymph nodes and extreme soreness.

During the demonstration, and diphtheria in various age groups is largely determined by the amount and intensity of prevention efforts to eliminate the infection. Therefore, in recent years, the frequency of disease disappeared and seasonal variations, suffer mostly the elderly, the increased proportion of cases among rural residents. The clinic diphtheria were recorded more often light and blurred form of the disease with an increase in the proportion of toxic diphtheria throat disappears diphtheria rare localizations and diphtheria throat, accompanied by croup, decreased rate of complications and mortality.

Manifestations of local process in *diphtheria vaccinated* correspond to those of bluetongue lacunar angina or with the presence of loose, easy to shoot strikes, does not apply even if the toxic form of diphtheria (S.D. Nosov, 1980).

The course and the manifestation of *diphtheria in adults* characterized by the fact that the initial period resembles that with lacunar angina (body temperature to 38–39°C, headache, weakness, fainting, pain in the throat). Local changes little consistent with the typical signs of diphtheria: bright hyperemia, the presence of loose, easy to remove plaque in the gaps, moderate swelling (L.A. Favorova et al., 1988). Pathological process in these cases may have a favorable outcome, which is the cause of delayed diagnosis.

Scarlet fever. Angina occurs when the disease to the syndrome of acute tonsillitis in combination with fever and intoxication. Disease begins acutely: the body temperature rises from subfebril to 40°C and more, there is pain in the throat, picking up signs of intoxication (general weakness, vomiting, headache). The most common manifestation of intoxication – vomiting of central origin without anticipatory nausea.

In contrast to the banal sore throats for the presence of scarlet fever typically exanthema. The rash appears at the end of pervyx or on the second day of onset. For scarlet fever is characterized by a rash on the dotted background hyperemic skin, which thickens in the natural folds (axillary, inguinal, popliteal region). On the face as a result of the merger of separate elements abundant rash observed bright with pale cheeks flushing nasolabial triangle. In the folds of the skin, especially in the elbow, there are petechiae, the merger of which folds become saturated color with brown or purple hue (a symptom of

pasta). The rash usually lasts 3–7 days, depending on the severity of the disease and disappears, leaving pigmentation. In the second week of illness appears peeling, most pronounced in the toes and hands.

For scarlet fever is typical bright hyperemia tonsils, uvula, handles, not passing on the hard palate. The defeat of the tonsils may occur as a catarrhal, follicular lacunary, necrotic and fibrinous false angina. Catarrhal and follicular lacunar angina of scarlet fever developed from the first day of illness, are more vivid oropharyngeal hyperemia compared to those with normal (banal) angina and disappear after 4–5 days. Necrotic angina appears on the 2–4th day of illness. Depending on the severity of the disease can be superficial necrosis (in the form of small individual plots) or deep, ranging across the surface of the tonsils. Necrosis has a dirty gray or greenish color, fade slowly – within 7–10 days. Lozhnofibrinoznaya angina develops most often on the first week of the disease, accompanied by a high temperature (up to 39–40°C) and the formation of a thick fibrinous film, tightly knit with the underlying tissue. The film covers the surface of the tonsils and can be distributed on the buccal mucosa, as well as nasopharyngeal space. After removal of the film ulcerated mucosa and bleeding. When a significant distribution process is violated not only swallow, but breathing.

Language in the disease densely coated gray-white coating, but with 2–3rd day begins to clear from the edges and the tip turns bright red with prominent papillae («raspberry» language).

Accordingly, the degree of destruction of tonsils in the process involved regional lymph nodes. It should be noted that cervical lymphadenitis in scarlet fever occurs earlier and less prominent than the usual angina.

Infectious mononucleosis. Typically, the syndrome presents with fever, intoxication, poliadenopatiey, hepatosplenomegaly and characteristic hematological data. The disease usually begins acutely: the body temperature rises to 38–39°C and is accompanied by a fever, appear sharp weakness, headache, myalgia, arthralgia, later – sore throat MRI swallowing.

Fever – is often the first and most common symptom of the disease. At the height of the disease the body temperature rises to 38–40°C, the duration of fever – 2–4 weeks. Temperature curve basically

wrong type, but it can be a constant, remittent, hectic.

Angina appears from the first day of illness or develops later against fever and other symptoms of the disease (5–7 day). It may be catarrhal, follicular, lacunary, filmy and necrotizing. Hyperemia tonsils, uvula and arches moderate, slight sore throat. In most cases, loosening the tonsils, swollen, can link up to the middle line and obstruct breathing. Often on the surface of the tonsils appear loose, rough-ups, which are easily removed and pounded. These come in the form of islands, stripes or solid films whitish-yellow or dull gray. The coats are located mainly in the gaps (88%), but sometimes applied to the surface of the tonsils. In 10% of patients have angina glumaceous resembling diphtheria throat, and even more rarely – follicular and necrotic. On average coats held about a week after their disappearance mucosa hyperemic and loosened.

Often affects the nose throat and nasopharyngeal tonsil, which manifests the difficulty of nasal breathing, voice changes («muffled» voice, as if paratonzillitah). Typically, patients breathe through the mouth, while the nasal passages are free and no nasal discharge, due to lesions of the mucous membrane of the inferior turbinate and the entrance to the nasal part of the pharynx (back rhinitis).

Lymphadenopathy – a characteristic and the most constant symptom of infectious mononucleosis. From the first days of illness revealed generalized lymph nodes – cervical, axillary, inguinal, neck, chin, BTE, subclavian, mesenteric, although it noted denotes not always and in all patients. Tend to increase in the lymph nodes, especially the posterolateral neck, arranged in a chain on the falling edge of the sternocleidomastoid muscle. Their diameter is 2–4 cm nodes are not soldered to each other and to the surrounding tissues, dense little painful and not suppurate. 1,5–2 weeks glands begin to decrease, being enlarged and sensitive to palpation for a few more weeks or even months.

Sometimes, the main manifestation of the disease is the loss of mesenteric (ileocecal) lymph nodes. It is accompanied by pain in the right iliac region, simulating an attack of acute appendicitis.

Hepatosplenomegaly is observed in almost all patients. Liver begins to increase with the onset of the disease, reaching a maximum 4–10th day, in some cases accompanied by jaundice of the skin and

sclera. Enlargement of the spleen – also one of the early symptoms of the disease. Normalization of liver and spleen size comes at the end of the month of onset.

Some patients may be rash (roseolous, blotchy, erythematous), which is stored from 1–2 days to several weeks.

Crucial for the diagnosis of infectious mononucleosis are indicators hemogram and results of specific serological tests. At the height of the disease in the blood was leukocytosis (15–20 x 10^9/l), the increase in the number of mononuclear cells (lymphocytes and monocytes) with the appearance of atypical mononuclear cells, and a moderate increase in erythrocyte sedimentation rate (20–30 mm/h). Serological diagnosis of infectious mononucleosis is based on the detection in serum of patients with heterophilic antibodies to red blood cells of animals (sheep, ox, horse, etc.).

Acute leukemia. Accompanied by high temperature (39–40°C) with chills and then a sharp general weakness, headache and dizziness. Often have nosebleeds, against pale skin and mucous marked hemorrhagic rash. Characterized by lymphadenopathy and hepatosplenomegaly.

Angina that develops because of a satisfactory condition at the beginning of the disease is the catarrhal and the harbingers of septic flow leukemia. Later, the disease becomes septicemic form, and the local process has necrotizing character. Plaque that forms on the surface of the necrotic tissue, becomes a dirty gray color. When removing it opens bleeding tonsil tissue defect with an uneven surface. Necrosis may extend to the oral mucosa, gums, throat.

The diagnosis is usually confirmed hematologic data. Leukocyte count varies from normal to hyperleukocytosis (100-200 x 10^9/l). In hemogram dominated youngest power hematopoietic cells – hemocytoblasts, myeloblasts, lymphoblasts in the absence of transitional forms from young to mature. Characterized by severe anemia (red blood cell count drops to 1–2 x 10^{12}/l, hemoglobin level – up to 25–40 g/l) and thrombocytopenia

Agranulocytosis. Is not seen as separate entities that as a clinical and hematological syndrome characterized by the almost complete disappearance of granulocytes in the peripheral blood. Often cause agranulocytosis is receiving different drugs – dipyrone,

phenylbutazone, sulfonamides, chloramphenicol, and others, it is important to consider in the differential diagnosis of angina with another origin.

Clinic agranulocytosis made by symptoms of acute sepsis and necrotizing tonsillitis. Disease begins acutely, the body temperature rises to 39–40°C, general weakness, pain in the throat. Necrotizing process is localized mainly in the tonsils, occasionally grabbing mucous gums, tongue, pharynx, larynx. Often on the tonsils, the bow, the tongue appears grayish dirty hard detachable thick filmy coating. Necrotic areas, purifying, form an extensive ulcer surface. Characterized by sharp leukopenia (below $2x10^9$/l), a significant reduction in the number of neutrophils, a relative lymphocytosis (90% or more).

Differential diagnosis of angina, you should remember about the possibility of *tuberculous lesions of tonsils*, which amid the pale mucous membrane has its defect, ulcerate infiltrates with saped edges. Swallowing sharply painful.Tuberculous lesions of the pharynx usually arises against pulmonary tuberculosis, urinary tract, and the diagnosis is facilitated by specific bacteriological, serological and radiological investigations.

The differential diagnosis of angina should take into account the possibility of initiating tumor (cancer limfoepitelioma, clasmocytoma tonsils), especially with unilateral enlarged tonsils, maloboleznennyh presence of enlarged lymph nodes around the corner of the lower jaw and the long process. The diagnosis is made after a biopsy and subsequent histological examination.

Treatment.

In mild angina current medical therapies are carried out in an outpatient setting district physician (general practitioner), and for moderate and severe degrees of severity, patients should be hospitalized. Indications for hospitalization:

a) *The general indications*:

- Severity of the patient, suspected complications;
- Recurrent angina;
- Doubts about the diagnosis;

b) *epidemiological evidence:*

- The inability of constant care and monitoring of patients;
- The inability to isolate patients from closed and organized

groups;

c) *The provisional indication*:

- The development of angina in patients not vaccinated against diphtheria.

General principles for the treatment of angina:

− Sanitary measures;

− Diet #2 – in the acute period, with the transition to a diet #15, medical treatment.

− Causal treatment (systemic antibiotic therapy, topical administration of antimicrobial drugs).

− Pathogenetic therapy (detoxification, vitamins);-Symptomatic therapy (non-steroidal anti-inflammatory agents, topical anesthetics, antipyretics).

− Physiotherapy.

In the early days of the disease the patient is in need of bed rest, with the improvement in the state – in the ward. To avoid contamination of patient isolation is in a separate room or enclosure by his bed curtain or sheet, allocated a separate utensils, towels, etc.

The diet should be gentle, rich in vitamins C and B, containing sufficient amount of liquid in the form of tea, fruit infusions, jelly, mineral water, etc.

Systemic antibiotic therapy is aimed primarily at the main pathogen eradication angina (beta-heamolytic Str. type A (BHSA)) the following objectives:

− Reducing the risk of rheumatic fever.

− Preventing the spread of streptococcal infection.

− Reducing the severity of symptoms and their duration.

− Prevention of suppurative complications.

Empirical antibiotic therapy is indicated in cases when the following clinical criteria:

− Fever.

− Purulent exudate or coats in the gaps.

− Cervical lymphadenitis.

− No cough.

In the absence of symptoms of systemic antibiotic therapy is prescribed only if positive blood culture or rapid strep swab on the antigen. In the case of clinical failure of empirical antibiotic therapy

should also microbiological examination of smears from the surface of the palatine arches with the determination of the sensitivity of the selected agent. Drug of choice is antibiotics, active primarily against BHSA. Typically, antimicrobial drugs administered orally, however, with clinical symptoms of intoxication and shown parenteral antibiotics.

Table8 - Drugs of choice:

Amoxicillin/clavulanate	per os for 30 minutes before a meal to 375 – 625 mg 3 p/day or 1,0 g 2 p/day for 10 days
Phenoxyethylpenicillin	per os for 30 minutes before a meal of 0.25 – 0,5 g 4 p/day for 10 days
Cefotaxime	i/m 1–2 g 3 p/day for 3–5 days
Benzatinpenicillin	i/m once 2,4 million units
Amoxicillin	0,5 g 3 p/day
Cefadroxil	0,5 g 2 p/day

Benzatinpenicillin i/m appropriate to appoint at:

- Questionable diligence patient compliance to the use of antibiotics;
- A history of rheumatic fever in the patient or next of kin;
- Adverse social conditions;
- BHSA infection outbreaks in day care centers, schools, boarding schools, military units, etc.

Dentists in, given the dosage form in the form of a suspension, it is recommended mainly in young children in appropriate doses.

Alternative medicines:

Table 9 - Intolerance to beta-lactam antibiotics:

Azithromycin	0,5 g 1 p/day on day 1, then 0,25 g 1 p/day 1 hour before meals for 4 days
Clarithromycin	0,25 g 2 p/day or 0,5 g of 1 – 2 p/day for 7–10 days
Midekamicin	0,4 g 3 p/day for 1 hour before meals for 7–10 days
Roxithromycin	to 0,15 g 2 p/day or 0,3 g 1 p/day for 7 to 10 days
Spiramycin	by 3 million IU 2 p/day for 7–10 days
Erythromycin	0,5 g 3 p/day 1 hour before meals for 10 days

Erythromycin with oral macrolides are more likely to cause side effects, particularly on the part of the gastrointestinal tract.

In recurrent tonsillitis BHSA-drugs of choice are:

− Amoxicillin / clavulanate – 0,625 g 3 p/day;

− Cefuroxime axetil of 0,25 g 2 p/day (after meals), intolerance to beta-lactam antibiotics, alternative drugs are clindamycin or lincomycin for 10 days (in the above doses).

With frequent recurrences of sore throats, with adequate treatment of exacerbations of treatment showed an lincomycin 0,3–0,6 2 p/day/m.

Systemic antibiotic therapy should be combined with a local appointment of antimicrobial drugs with a wide spectrum of action. Local prescribing necessary due to the viral etiology of some forms of tonsillitis, there are more resistant strains of bacteria, as well as unwanted side effects of antibiotics. Topical administration of drugs with a wide spectrum of antimicrobial activity, in some cases, it may be an alternative to traditional antibiotics. Active ingredients of topical preparations are usually one or more antimicrobial agents (antiseptics, antibiotics, sulfonamides), essential oils, local anesthetics, non-steroidal anti-inflammatory drugs. This may also include natural antiseptic (plant extracts, bee products) synthesized factors of nonspecific protection of the mucous membranes, which have antiviral, vitamins (ascorbic acid), and other drugs for the local treatment must meet the following requirements:

− A wide range of antimicrobial activity, ideally combining antibacterial, antifungal and antiviral activity;

− The low absorption rate of mucus;

− Low allergenicity;

− No irritating to the mucous membranes.

Table 10 - Drugs for topical application:

Ambazon tablets	kept in the mouth to complete resorption of 30–50 mg 3 p/day, 7 days a course of treatment;
Benzydamine	gargling with 15 ml of 3 p/d for 7 days;
Biklotimol	keep the mouth to complete resorption of 1 lozenge 3 p/day, 7 days a course of treatment;
Hexetidine	gargling with 20–30 ml of 3–4 p/d for 7 days;
Gramicidin	tablets kept in the mouth to complete resorption of 3 g 4 p/day, 7 days a course of treatment;
Dioxidine	0,5% solution, gargling 4 p/d for 7 days

Carbamide peroxide	0,25% solution, gargling 3 p/d for 7 days
Miramistin	0,01% solution, gargling with 6–8 p/day for 7 days
Nitrofurazone	0.02% solution, gargling every 2–3 hours for 7 days
Polyvidone-iodine	Polyvidone-iodine
Fuzafungin	inhaled for 4 breaths 4 p/d for 7 days
Chlorhexidine	1% aqueous solution, gargling every 2–3 hours 1–2 days, then 3–4 p/day 5–6 days

Inhaled antibiotic fuzafungin (Bioparox) with a broad spectrum of antibacterial action and local anti-inflammatory effect is very effective in the treatment of angina. Inhalation produced every 4 hours for 4–5 days.

Surface treatment of the tonsils with an antiseptic solution is indicated for angina Simanovsky – Vincent.

Locally applied rinse with warm emollient decoction of sage and chamomile, as well as sodium chloride, sodium bicarbonate, potassium permanganate, boric acid, Frc, ethacridine lactate and hydrogen peroxide. Rinsing is performed after a meal. Good effect observed when used to rinse anti phytoncidic fees. For example, in the following recipe: St. John's wort (herb) – 2 parts, the common oak (bark) – 2 parts nettle (leaf) – 1 part, tansy (flowers) – 1 part pine (kidney) – Part 1, Licorice (root) – 2 parts buckwheat (grass) – Part 1, 2 tablespoons of the mixture boil in 1 cup of boiling water for 15–20 minutes, stirring occasionally contents, strain through a double layer of cheesecloth, lightly squeeze, cool 30–45 minutes. Apply as a warm gargle for 1/2–1/3 cup several times a day, 1/3 cup can be taken orally in the form of heat in the morning and evening.

To reduce the severity of pain shown topical anesthetics:

Diklonin keep the mouth to complete resorption of 8 1 tablet once a day;

Lidocaine 10% spray, 1–2 irrigation throat and tonsils 3 times a day;

Menthol, 2% alcohol solution, 2–3 drops to 1 liter of water, two inhalations twice daily.

To mobilize the body's defenses used vitamin therapy:

Ascorbic acid into 1 g 2 p/day 1–3 days, then 500 mg/day;

Multivitamin complexes into 1 capsule. (Table)/day.

In severe intoxication, pain and fever prescribe non-steroidal anti-inflammatory drugs:

Diclofenac inside 50–100 mg/day;

Paracetamol inside of 1–4 g/day for no more than 3 days.

Physiotherapy. Applied to the neck cotton-gauze bandage or a hot compress. With a pronounced regional lymphadenitis appoint microwave therapy or current UHF SoLux.

Treatment of the patient is carried out under the control of blood counts, urinalysis, febrile reaction of the heart, etc., and the question of discharge convalescent decided to work in the normalization of all these indicators.

Evaluation of results of treatment. Criteria for clinical cure:

– Anormalization of body temperature

– Improvement in general well-being

– Disappearance of pain in the throat

Regression of regional lymphadenitis

Repeated microbiological examination after antibiotic therapy is indicated:

– Patients with a history of rheumatic fever

– Outbreaks of tonsillitis BHSA-in organized groups

– In the period of high incidence of rheumatic fever in the region.

Under the ineffectiveness of antibiotics, acute tonsillitis BHSA should understand conservation of clinical symptoms of the disease and the positive results of microbiological tests after treatment drug of choice, most often – penicillin. Failures in therapy may partly be due to a lack of executive patient adherence to the treatment (taking the drug immediately after meals, reducing the daily dose, early termination of treatment, and so on). In situations like this shows once/m introduction benzatinpenitsillina (2,4 million units). In other cases, we recommend a second course of treatment with one of the drugs used for recurrent tonsillitis, BHSA (amoxicillin/clavulanate, cefuroxime, axetil, lincosamides).

Errors and unreasonable use

Errors in the treatment of acute tonsillitis-BHSA:

– Undue preference to local treatment (including antimicrobials) at the expense of systemic antibiotics;

− Underestimation of clinical and bacteriological efficacy and safety of penicillins;

− The use of macrolides and lincosamides as means I have a number of patients with good tolerability of beta-lactam antibiotics;

− Reduction of antibiotics in clinical improvement;

− Wrong choice of antibiotics.

When BGSA-tonsillitis not shown application:

− Sulfonamides and co-trimoxazole (BHSA resistance, toxicity);

− Tetracycline (resistance BHSA);

− Quinolones and fluoroquinolones early (low natural activity).

Medical-social examination

To address the issue of health person who has had a sore throat must adhere to the following criteria:

− The complete disappearance of symptoms of tonsillitis;

− The lack of a regional lymphadenitis;

− No symptoms of the syndrome common infectious intoxication;

− Stable normalization of body temperature;

− Absence of pathological changes in the internal organs;

− Normalization of controlling blood count and urinalysis.

Period of temporary disability for those heavy physical labor or working in difficult conditions, with catarrhal angina – 7–8 days, and lacunar tonsillitis – 9–12 days, for other patients with catarrhal angina – 5–7 days, with lacunar and follicular – 9–10 days.

Rehabilitation

Rehabilitation of patients with angina is conducted in the rehabilitation clinic or directly district physician (general practitioner). Testimony to the direction in the rehabilitation are worsening comorbidities, complications.

Dispanserizationand prevention

Persons who are ill with uncomplicated angina, are exempt from hard labor for 7 days, from the sport for 1 month and have to visit doctor 1 time every 10 days for 1 month.

LESSON № 3 Acute bronchitis and pneumonia. Outpatient aspects of diagnosis and treatment, medical tactics, medical-social examination, dispanserization, primary prevention.

Acute Bronchitis

Acute bronchitis (AB) – is inflammation of the trachea, bronchi, bronchioles, and less bowl viral bacterial, with acute course and diffuse reversible lesion of mucosa mostly.

Epidemiology

Acute bronchitis is one of the most common respiratory diseases. Frequency of acute bronchitis among bronchopulmonary diseases is about 34,5%, which indicates an important socio-economic role of the prevention of the disease.

Etiology and pathogenesis

The most common causes of acute bronchitis are viral agents: influenza viruses (A, B), parainfluenza, respiratory syncytial virus infection, rhinovirus infection and other. Bacterial agents cause acute bronchitis more rare: Streptococcus pneumoniae, Hemophilus influenzae, Staphylococcus aureus, Moraxella (Branhamella) satapalis, more often in people with weakened immune systems and children. A common cause of OB are: Mycoplasma pneumoniae, Chlamydia pneumoniae, Bordetella pertussis (Vart Jett J., 1999).

Common pathogenic mechanisms:

− introduction of the infectious agent through the upper respiratory tract;

− fixation on the surface of the mucous membrane;

− reproduction and further spread of infectious agents;

− infectious and toxin mechanism;

− development in response to the introduction of infectious agents and local and total reaction of the body;

− suppression of local factors bronchopulmonary protection and suppression of general resistance of the body;

− restoration of disturbed functions, recovery.

Classification of acute bronchitis:

On the etiological reasons:

viral, bacterial, viral and bacterial, caused by chemical and physical influences, not the proximate.

On pathogenesis: primary, secondary.

The level of bronchial lesions: tracheobronchitis, bronchitis, bronchial lesions with medium caliber, bronchiolitis.

By the nature of inflammation: catarrhal, purulent.

For the ventilation: nonobstructive, obstructive.

By the nature of the flow: acute, prolonged, recurrent.

By the presence of complications: uncomplicated, complicated with the development of emphysema, respiratory failure, hemoptysis.

According to severity: mild, moderate, severe.

Common clinical manifestations of acute bronchitis:

1) clinic of acute respiratory viral infection with secondary acute bronchitis;

2) syndrome of common infectious intoxication of varying severity;

3) respiratory syndrome, which is characterized by shortness of breath

4) soreness in the throat and in the chest, hoarseness and/or hoarseness;

5) occurrence of dry cough in the first 1–2 days of the disease, which can be and with scant trudnootdelyaemoy sputum;

6) cough can be rough, paroxysmal, «barking»;

7) at 2nd–3rd day character of the cough is changing, becomes more soft and moist, improved sputum release (mucous character);

8) accession superinfection sputum is muco-purulent character, picking common infectious intoxication symptoms, bronchial obstruction of varying severity

Characteristics of clinical manifestations of acute bronchitis depending on the etiological factor causing it.

Influenza

In the first 1–2 days for symptoms of bronchitis otsytstvuyut. Then comes the cough, in the discharge of sputum may be streaked with blood. Characterized nekrotic and degenerative changes in the mucous membrane of the trachea and bronchi, the large and medium-sized, often bronchitis proceeding like panbronchitis with severe peribronchitis. In the development of bronchitis has important value joining secondary microflora (superinfection). Body temperature – 380S and above.The degree of severity – moderate and severe. UAC can reveal leukopenia with a left shift, and sometimes – monocytosis.

Parainfluenza

Poorly defined syndrome of intoxication, fever to 380S,

respiratory tract damage – laryngitis, no hemoptysis, no conjunctivitis, mild or moderate severity, normocytosis.

Adenovirus infection

Adenoviral diseases peculiar to the presence of a pronounced exudative component with involvement in the pathological process of mucosa of respiratory tract, eyes, and involvement of the lymphoid tissue. General state suffers a little, higher temperatures can be long-term (7–10 days).

Respiratory syncytial virus infection

Most commonly affects the lower respiratory pyti, upper suffer a little. Characteristic bronchial tubes lesions with the development of wheezing, shortness of breath that lasts 3–4 days. Syndrome is a common infectious intoxication is moderately expressed, often low-grade temperature. Characteristic part of joining the superinfection.

Respiratory mycoplasmosis

Characterized by lesions of all respiratory tract with predominantly involving small bronchi. No differences from the classical flow bronchitis, but very often complicated by pneumonia.

Respiratory chlamydiosis

Intoxication syndrome moderate, low-grade temperature, damage of respiratory tract – trahiobronchitis, no hemoptysis, no conjunctivitis, mild or moderate severity, normocytosis, increased erythrocyte sedimentation rate.

Whooping cough

First period – catarrhal, manifested rise bronchitis symptoms and has no distinguishing features. The second period is called convulsive and characterized – coughing fits, which occur suddenly as paroxisms and accompanied by reprises. Third period – terminal, bronchitis phenomena disappear.

Treatment.

Bed rest, well ventilated area to avoid hypothermia, excessive drinking, antibacterial drugs in accordance with the type of pathogen, antipyretics, exrectorals, anticough drugs (canceled in sputum presence), aminophylline, vitamines, physiotherapy (Solux, UHF).

Prophylaxis.

hardening, preventing acute respiratory infections, rehabilitation of chronic infection foci, smoking.

Examination of disability.

Easy – 5–7 days, medium-heavy and heavy cases – 8–14 days.

Active counseling

AB recoverers without obstruction with respiratory failure II (6 months from the observation 1-3-6 months).

With obstruction with respiratory failure II – examination 3–6 times per year.

Community-acquired pneumonia.

Pneumonia– an acute infectious disease, occurring with the formation of the inflammatory exudate in the lung parenchyma and burning in X-ray examination, which was previously missing (there is no other known cause darkening by the appearance by X-ray examination of the lungs.

Diagnostically significant criteria accepted to pneumonia are following clinical signs and symptoms: the appearance on patient's X-ray-grams new infiltration (progression or already had) in the first two days of the onset of clinical symptoms (all or several):

- Fever;
- Leukocytosis;
- Department of purulent sputum;
- Presence in the sputum, stained by Gram, more than 25 polymorphonuclear leukocytes in the field of view and less than 10 epithelial cells in a field of view (with microscopic FDI with low magnification);
- Identification of the etiologically significant pathogen during microbiological research.

Classification.

According to the existing classification of diseases and causes of death (ICD-10) with the infectious origin of the disease is distributed by type of pneumonia pathogens. These principls underlie the classification used in the past by N.S.Molchanov, supplemented in 1983 and by O.V.Korovina E.V.Gembitski that difficult to draw diagnosis to complete the survey and does not allow the practitioner to determine the tactics.

Consensus on pneumonia in 1995, and standards for diagnosis and treatment of patients with non-specific lung diseases provides physicians an opportunity to formulate a diagnosis even when the

primary treatment for the patient's medical care, providing that:

- Community-acquired pneumonia;
- Hospital pneumonia;
- Pneumonia in immunocompromised.

The European Society of Pulmonology offered stratify patients into two main groups, each one includes several subdivisions.

1. *Ambulatory patients over pneumonia*

- disease emerged in a region with high prevalence of resistent microorganisms;
- non-severe pneumonia in young people during the epidemia of M. pneumoniae;
- pneumonia in patients with COPD, in patients recently treated aminopenicillins, and in areas with high prevalence of H. influenzae producing beta lactamase.

2. *Patients requiring hospitalization*:

- pneumonia in the area with low presense of H. influenzae, producing of beta-lactamase;
- aspiration pneumonia, abscesses;
- Severe pneumonia (observation in the ICU).

The volume of lung tissue damage is usually (but not always) determines the severity of the disease. By volume of lesions are distinguished:

- Lobar pneumonia (takes a whole lobe);
- Segmental (occupying a separate segment);
- Bronchopneumonia (limited alveoli adjacent to the bronchus);
- Interstitial pneumonia (mainly affecting the interstitial tissue).

In practice is not always possible to accurately distinguish individual representation of types of pneumonia, so this classification is primarily aims past mortem examinations and, in addition, is used in radiology.

Most clinical practice guidelines distinguish the severity of pneumonia, as required hospitalization of patient:

1) does not require hospitalization (mild course);
2) required hospitalization (Severe)
3) must be treated in the intensive care unit (ICU) (Very Severe).

European Respiratory Society has proposed a set of clinical criteria, making hospitalization necessary:

− The presence of chest pain.
− The number of heart rate over 125 beats/min.
− Body temperature <35,0 °C or ≥40,0 °C.
− The number of breaths over 30 breaths/min.
− Cyanosis.
− Blood pressure <90/60 mm Hg. Art.
− Suspicion of the presence of pleural effusion, and abscess formation.

In addition, hospitalization is necessary in cases when it is impossible to conduct adequate treatment at home (the presence of the patient vomiting, poverty and low social protection, impaired memory and intelligence, in which it is impossible to implement medical recommendations).

Hospitalization and treatment is indicated in patients in the ICU, with the following signs:

Severe respiratory failure:

− The number of more than 30 breaths per minute;
− The need for mechanical ventilation,
− The rapid spread of pneumonia on X-ray data (increase in infiltration by 50% in 48 hours).

Hemodynamic instability:

− Blood pressure <90/60 mm Hg. Art.:
− The need for vasopressor drugs for more than 4 hours
− Urine output <20 mL/h (in the absence of hypovolemia).

Metabolic and hematological criteria:

− Acidosis (pH <7, W);
− DIC.

Acute renal failure, the need for dialysis.Severe failure of other organs and systems.

At the same time experts of the European Respiratory Society allocate several groups of patients with relative indications for hospitalization:

1. Patients who had originally appointed antibiotic ineffective.
2. Patients at high risk of infection caused by gram-negative organisms or resistant strains of pneumococcus:

- Over 65 years;
- Patients from orphanages and homes for the elderly;

- Persons stradayushie alcoholism;

-Patients have COPD, heart disease, neurological disorders, diabetes, kidney and liver failure;

- Patients recently undergone acute viral infection of the respiratory tract;

- Patients with oropharyngeal aspiration;

- Patients who have recently hospitalized and given antibiotics.

3. Patients with risk factors for severe pneumonia.

4. On laboratory and radiographic criteria: leukopenia (<4 x 109 / L) or leukocytosis (>20 x 109 / l), the symptoms of kidney failure (increased urea and creatinine blood), acidosis (pH <7,3), disseminated intravascular coagulation syndrom and also defeat more than one lobe of the lung on chest radiograph, the presence of pleural effusion or abscess formation.

Differential diagnosis.

For practitioner is noteworthy differential diagnosis between pneumonia and cardio-vascular system, with forming stagnant changes in pulmonary circulation and the development of secondary pneumonia (heart failure, pulmonary embolism, pulmonary edema). Relevance of a correct diagnosis in these cases is determined by the need to make decisions quickly for urgent measures. At last, in 2–4% of cases in the presence of a light infiltratsii later identified is tuberculosis, which accounts for increased vigilance against the disease.

The choice of drugs.

The first rule of use of antibiotics in patients with pneumonia is the earliest possible start of treatment. It is proved that the delay in the prescribtion of the first dose of antibiotics for pneumonia over 8 h led to increased mortality.

Antibiotic treatment of pneumonia are usually subdivided into *two main phases:*

1. *Empirical*– to identify the pathogen.

2. *After identifying the causative agent* – according to the etiological diagnosis and to the study of sensitivity to antibiotics.

However, so far the treatment of pneumonia remains largely empirical, since the start of treatment until the data from the lab runs 2–3 days and, in addition, about 50% of the cases reveal the true agent

of inflammation inflammatory process in the lung fails.

Empirical antibiotic therapy should be based on clinical and epidemiological data (allows to suspect the presence of an impact arouser), the idea of the most common pathogens for the country pneumonia. A significant role is played by prior antibiotic therapy. If the previous treatment was ineffective (despite adequate doses and dosing regimens of antibiotics and the belief that the patient did receive a prescribed drug), can be oriented to «gaps» in the antibacterial spectrum previously used antibakterial drugs.

In recent years, antibiotic treatment choice for empirical therapy is increasingly dependent on regional spread of antibiotic-resistant strains of respiratory infections, the greatest importance is the prevalence penicillinresistant strains of S. pneumoniae. When you select a product has to bear in mind, many antibiotics (such as cephalosporins III generation) cause induction of beta-lactamase production and the rise of antibiotic resistance.

In the treatment of the patient (in the clinical efficacy of the therapy) is possible to transfer a patient from parenteral to oral (sequential therapy) antibiotics. If the patient received an antibiotic, no analog for oral administration, it can be replaced with a similar drug spectrum.

Most clinical practice guidelines indicate that antibacterial treatment of pneumococcal pneumonia should last about 3 days after normalization of temperature.

At least 2 weeks should continue treatment for Mycoplasma, Chlamidia or Legionella pneumonia.

Complications of pneumonia.

Complications include pneumonia, shock, respiratory distress syndrome of adults (ARDS), pleurisy, abscess formation, prolonged duration of pneumonia. Pneumonia can also be accompanied by the development of respiratory distress syndrome, and systemic inflammatory response syndrome (SIRS).

Shock

In patients with severe pneumonia tscheniem there are *two types of shock*:

– true hypovolemic shock with insufficient consumption of liquid, with increased its loss manifests a decrease in cardiac output and

a compensatory increase in total peripheral vascular resistance (TPVR);

− Septic shock (dilation occurs when resistance vessels exposed to endotoxin of gram-negative organisms), in this case a reduction of TPVR and compensatory increase in cardiac output.

Septic shock is often diagnosed only when a violation of consciousness. Therefore, patients with severe pneumonia need frequent (every 1–2 hours) a tonometry, diuresis control. Reduction of blood pressure (systolic blood pressure <90, and diastolic blood pressure <60 mm Hg.) with decrease of urine output (<20 ml/h) show the development of shock.

The volume of fluid therapy is determined by the severity of hypovolemic shock. At a septic shock can not expect a quick positive effect of infusion therapy (as in hypovolemic)

With the lack of effectiveness of infusion therapy can be recommended the appointment of dopamine or dobutamine. The use of corticosteroids in septic shock is not currently recommended.

Respiratory distress syndrome of adults.

Basic pathogenetic mechanism is massive propotevanie plasma and blood cells in the interstitial and alveolar spaces, which leads to hypoxia not corrected by inhalation of oxygen (exudate occupies almost the entire surface of the lungs), and the subsequent development of inflammation and outcome in severe interstitial fibrosis with the development of severe restrictive respiratory failure. It is indicated pronounced shortness of breath, which develops in 1 to 2 days after the initial manifestation of the disease (severe pneumonia, aspiration of gastric contents, trauma of the chest, shock, burns).

Lung abscess.

The most common pathogens vyzyvayushimi destruction of lung tissue, are Staphylococcus, Streptococcus, K. pneumoniae, anaerobic flora. Average period of abscess formation in pneumonia is 5–7 days, and with pneumonia, caused by K. pneumoniae, – 3–4 days. Maintaining a high temperature and a massive phlegm allow suspect abscess.

When abscess formation is necessary to increase the dose of antibiotics, improve the drainage function of the bronchi, through postural drainage and bronchoscopic redevelopment. In cases when it is impossible to achieve drainage of abscess, surgical treatment. Wherever

abscess formation should be carried out a series of sputum for TB.

Pleurisy.

Treatment of patients with non-infected pleural effusion with no tendency to increase its volume is usually conservative. It is a condition bacteriological and cytological examination of fluid after the diagnosis of pleural puncture with a fine needle.

Systemic inflammatory response syndrome.

Pneumonia may be accompanied by severe sepsis, which in this case should be considered as its complications. According to the consensus of the American College of Physicians, and the Society of Critical of Medicine, the term sepsis is systemic response to infection. It is believed that in addition to bacteremia in base of septic states is a systemic inflammatory response, and the presence in the blood of microorganisms no longer plays a key role.

A key feature for the diagnosis of sepsis is fever, training conditionality presence of inflammatory mediators in the blood (especially prostaglandin E2). In sepsis (and less frequently in SIRS) in elderly patients with violation thermoregulatory mechanisms may experience hypothermia. During the early stages of sepsis is usually accompanied by hyperventilation with the development of respiratory alkalosis and fatigue of respiratory muscles.

On the evidence of multiple organ failure: –brady- and tachypnea (more than 30 min.).

– Shock, bradycardia, ventricular arrhythmias, acute myocardial infarction;

– Oliguria, increased serum creatinine and urea;

– Hyperbilirubinemia (>50 mmol/L), increased AST and ALT 2 times or more;

– ICE;

– Stress ulcers, bleeding from the gastrointestinal tract, intestinal perforation;

– Impaired consciousness.

Treatment of sepsis is a complex task.

Medical and social examination of pneumonia

Acute pneumonia causes about 40% of all days of temporary disability (TD) with nonspecific lung diseases.

It is preferable in treatment of acute pneumonia in hospital to

continue rehabilitation in polyclinic.

Mild form of acute pneumonia observed with focal lesions. Subjective and objective signs are moderate, slight intoxikation, the temperature is not above 38 degrees, slight tachycardia, a trend to some reduction in blood pressure, changes in the peripheral blood of an inflammatory nature are not very pronounced, the focal inflammatory infiltration at X-raygram. TD is 17–20 days, including 15 days of hospital treatment.

The average severity of pneumonia is determined by large pockets or share with severe lung lesions and fever and intoxication syndromes, significant reaction from the cardiovascular system as tachycardia and lower blood pressure, a sharp increase in white blood cell count, erythrocyte sedimentation rate and acute phase indicators in serum. TD is at least 28 days, followed by work arrange by MAC with the exception of adverse factors at work for a period of 3–4 weeks.

Severe form of acute pneumonia observed in polysegmental, bilateral pneumonia complicated by suppuration, etc., is grounds for immediate hospitalization and intensive comprehensive treatment respectfully in specialized hospitals or departments ¬ intensive therapy unit (ITU). TD duration ranges from 40-45 days with favorable course up to several months if necessary surgery. Patsienty working in adverse weather conditions associated with dust, exposure to irritant gases, with a significant, even of a nonconstant physical strain should be temporarily transferred to conclusion of MAC to other work, excluding the impact of these adverse factors.

LESSON № 4. Ischemic heart disease: outpatient aspects of diagnosis of various forms of ischemic heart disease, medical policy, medical-social examination, dispanserization, primary prevention. Treatment of angina pectoris. Emergency care for angina attack on an outpatient basis.

Ischemic (Coronary) heart disease

Ischemic heart disease (IHD)(Coronary artery disease) remains the dominant both in prevalence and in mortality in our country and in the most economically developed countries.

Diagnosis, classification and clinical forms of angina.

In a study of patients district physician (general practitioner) finds patient complaints, history of life and the disease. For the diagnosis of chronic ischemic heart disease, the district physician needs to know:

- Features of pain in angina pectoris;
- «Atypical» versions of angina pectoris;
- Asymptomatic clinical forms of coronary artery disease;
- Risk factors;
- Eliminate the disease, simulating IHD (Noncoronary cardialgiae).

District physician receives information in favor of a presumptive diagnosis on the basis of physical examination.

These laboratory and imaging studies can confirm the assumption of the presence or absence of IHD and its complications.

Complaints: most often localized retrosternal pain «during a physical exertion», often irradiation of the pain in the left shoulder, the left arm. If angina occurs during the inspection, you can see orthopnea (in this position can be reduced venous flow and reduce the amount of stress and ischemic ventricular wall of the heart).

The diagnosis of angina is primarily clinical, based on a thorough qualitative description of pain. In order to avoid subjectivity in the interpretation of pain, the WHO Expert Committee on Cardiovascular proposed the following diagnostic criteria for pain, typical angina:

1. *The nature of pain*– compressing or crushing.
2. *Localization of pain*– or retrosternal precordium to the left edge of the sternum.
3. *Clear relationship* of pain attack at the height of physical activity.
4. *Duration of pain*– no more than 10 minutes.
5. *Rapid and complete effect of nitroglycerin*.

Therapist must remember that pain is not corresponding to the criteria, especially the last three, can not be regarded as angina, and requires a further search to determine the cause of the pain.

Bear in mind that when variant angina attacks occur only at night during sleep, which is associated with the occurrence of vasospasm and ischemia during an attack of parietal thrombosis. Recorded during angina attack demonstrates the presence of ECG ST-

segment elevation, sometimes in the form of single-phase curve.

Examination of the skin: during angina attacks, resulting in peripheral vasoconstriction integument usually grayish tint. Skin examination in the interictal period reveals features characteristic of coronary heart disease: xanthomas and xanthelasma, located at the inner corner of the eye, yellowish bumps or growths tuboroznyh xanthomas on the elbows or knees, flat xanthomas in the skin of the chest and neck.

Young people are especially revealing sign of suspect and early atherosclerosis, is a corneal arc (arcus sinilis).

The importance attached to inspection and palpation of vessels of heart rate, determining the boundaries of the vascular bundle and heart, listening heart and great vessels, evaluation sonority tone and rhythm of the heart.

It must be remembered that there atypical forms of angina. May occur following equivalents angina: arrhythmic, asthma, peripheral. Arrhythmic manifestation of angina can be the equivalent of ventricular arrhythmias, atrial fibrillation, paroxysmalsupraventricular tachycardia. At an altitude of transient ischemia may slow atrioventricular and intraventricular conduction. Usually these rhythm and conduction disturbances are temporary, and after the disappearance of ischemia pass. When arrhythmic equivalent angina transient arrhythmias often are associated with the physical activity, mogug successfully Cropped not antiarrhythmic drugs, and nitroglycerine and other antianginal drugs.

With extensive areas of ischemia transient nature, especially against the background of the previously arisen weakened myocardium, may cause an asthma equivalent angina. While developing acute congestion in the lungs, and symptoms of cardiac asthma. Clinical manifestation of peripheral equivalent of angina pain are different intensity not at the normal irradiation with typical angina. Peripheral equivalent angina can manifest a sense of heartburn when walking fast and simulate gastric ulcer and 12 duodenal ulcer, chronic gastritis. Some patients with angina is manifested by sudden bouts of muscle weakness and numbness of the left arm 4 and 5 fingers of the left hand is often the equivalent of angina may be shortness of breath, coughing and coughing sometimes when walking fast.

Great practical importance now attached to asymptomatic myocardial ischemia. It includes episodes of transient, reversible myocardial ischemia, which does not manifest clinically. Since in most cases asymptomatic IHD in vivo is not detected, it often can be complicated by myocardial infarction and cause untimely and sudden cardiac death. Asymptomatic ischemia can occur without combining it with Drut forms of angina, and combined with any choice of stable or unstable angina. Diagnosis of asymptomatic myocardial ischemia is based on carrying out daily electrocardiographic monitoring, as well as on the use of bicycle exercise, and other functional tests.

«Syndrome X» – angina with intact coronary arteries was first described in 1973 by H.Kemp. This syndrome is described in patients with typical retrosternal pain, positive exercise test and angiographically smooth with no signs of coronary spasm. Attach importance in the pathogenesis of ischemia-induced functional or structural abnormalities of the coronary microcirculation, as well as metabolic disorders, provoking disturbances consumption of energy substrates myocardium. Vazhvoe important ECG recorded during stress testing. Almost always there are ischemic changes interval ST, which do not differ from those with angina pectoris due to stenotic coronary atherosclerosis. However, in patients with «Syndrome X» have higher exercise capacity. Patients with «Syndrome X» have a very favorable outlook in life. Treatment is mostly with medicines. Use the same products as in classical angina. Along with these drugs successfully used drugs xanthine series, eg. aminophylline (euphylline).

There are some features of IHD in young and elderly. Most often they have IHD is asymptomatic or oligosymptomatic. The special features of the clinical manifestations of coronary artery disease in the elderly include a gradual onset, less clear emotional coloring of angina pain longer than the middle-aged. Angina should be considered short-term pain, which occur after emotional stress and going alone or after receiving antianginal drugs. The elderly and the elderly were significantly more common form of silent coronary artery disease, accompanied by various equivalents of pain. Sometimes it does not bother the patient pain and difficulty swallowing, the feeling of pressure and stop the food in the esophagus and in the chest.

In some cases, pain occurs in the supine position, the so-called

dekubitalnaya angina, in which a seated position pain disappears.

Of course, not all chest pain can be attributed to IHD. It requires careful differential diagnosis.

Young patients diagnosis of angina complicated by the fact that doctors are psychologically unprepared for the fact that angina and heart attack may be in 20–30 year-old patient.

Wrong psychological setting of physicians about inability of angina in young women. Requires anqeting aimed to identify risk factors: hereditary hyperlipidaemia, diabetes mellitus, hypertension, hormonal contraceptives, snontannye dizovarialnye disorders, smoking, professional activity increases the risk of heart disease in women. Complaints and a history of women may be masked cardialgiae.

Spontaneous (singular) angina known as Prinzmetal angina.

During spontaneous angina anginal attacks usually occur at one and the same time, often at night or early in the morning. They are connected to a local spasm of the coronary artery, accompanied by ST-segment elevation on the ECG. Spontaneous angina is often associated with angina.

Instrumental diagnostic.

Electrocardiography. The diagnostic value of ECG in patients with angina and small, for most of them it was recorded at rest and out of pain attack. ECG should be evaluated carefully in conjunction with the clinical picture and the possible dynamics. For signs of coronary insufficiency conducted bicycle stress test (VEM).

Indications for VEM:

1. Detection of latent forms of IHD.
2. Atypical chest pain
3. The presence of non-specific ECG changes in the absence of pain or atypical of his character.
4. The definition of exercise tolerance in patients with established coronary heart disease
5. Diagnosis of coronary artery disease in the absence of ECG changes alone.
6. Before coronary angiography and subsequent surgery.
7. Professional selection.

Contraindications for VEM:

1. Aortic stenosis and congenital heart disease.

2. Atrial fibrillation and other conditions associated with opastno embolism.

3. High arterial hypertension (200/120 mm. Hg.).

4. Stroke, disorders of the vestibular system.

5. Severe heart failure.

6. Early ventricular arrhythmias such as R on T.

7. Frequent politopnye extrasystole.

8. Bundle-branch block blockade.

9. Atrio-ventricular block II-III degree.

10. Unstable angina.

11. Acute myocardial infarction (at least 2–3 months).

12. Heart failure B II–III stage.

Relatively contraindicated for VEM:

1. Asthma and COPD in the presence of other respiratory failure.

2. WPW syndrome.

3. Venous thrombosis of the lower limbs, retinal detachment, high myopia.

4. At constant reception of cardiac glycosides, beta-blockers, Cordarone, calcium antagonists, diuretics, nitrates prologirovannogo action of reserpine and its analogues.

5. Blindness, deafness, as the cause of difficulties in contact with the subject.

6. Orthopedic disorders.

7. A history of complex cardiac arrhythmias or syncope.

8. Fever.

Temporary contraindications for VEM:

1. Acute exacerbation of chronic infectious diseases.

2. Sleepless night, heavy fatigue.

Interpretation of the results VEM.

Exercise tolerance:

– High-threshold power load more 900kgm/min;

– Medium-threshold power to the load 600–900kgm/min;

– Low-threshold power for loads of less than 600kgm/min.

VEM is considered positive if during it, or the recovery period there was one or more of these criteria. Of clinical signs specific to IHD is anginal prictyp and of electrocardiographic – ischemic ST-segment up or down by 1 mm or more. If only positive ECG signs, it

indicates asymptomatic myocardial ischemia.

VEM is considered negative if the age is reached submaximal heart rate and signs of positive samples.

Indications for ECG monitoring Holter:

1. Identification of atypical stenokardicheskie attacks.
2. Complaints of patients on cardiac arrhythmias, ECG undocumented.
3. Detection of asymptomatic arrhythmias.
4. Syncope of unknown origin.

Pharmacological tests with induction of the sample with drug-controlled transient myocardial ischemia (with dipyridamole, isadrin) is used in conjunction with other research methods to assess the coronary circulation and the functional state of the myocardium, especially in patients who, for one reason or another can not be done electrocardiographic exercise test (disease joints, physiotherapists, orthopedic defects, etc.). More recently, these tests are performed infrequently.

Other ECG stress testing:

- Psycho-emotional test;
- With hyperventilation;
- Cold sample.

Echocardiography to identify areas of hypo-or akinesia, respectively area of myocardial ischemia, or focal cardiosclerosis, sealing structures of aortic and mitral valve.

Transesophageal atrial electrical stimulation (TAES) reveals evidence of myocardial ischemia during exercise. The criterion for a positive test is the appearance of horizontal or ischemic kosoniskhodyaschego (2 mm) ST-segment deviation at the height stimulitsii. Samples indicated for patients who can not test with exercise due to comorbidities and deternirovannosti.

Of ***radionuclide myocardial imaging*** in the diagnosis of ischemic heart disease were the most practical application of methods for the determination of myocardial perfusion with 201 TL; radionuclide myocardial scintigraphy with 99 m TL-pyrophosphate to detect focal myocardial changes.

X-ray studies, including computed tomography, selective coronary angiography, left ventricular angiography.

Selective coronary angiography in typical stenocardiac pain, but with negative or questionable electrocardiographic stress testing to confirm the diagnosis of coronary artery disease in order to assess the location and extent of coronary artery disease.

These coronary help determine a method of treatment (conservative or surgical), to assess the severity of the patient, the patient's ability to work, and the prognosis. Diagnostically significant for angina is narrowing prostveta arteries more than 75% and occlusion of blood vessels.

Classification of coronary artery disease (WHO):

1. Primary cardiac arrest,

2. Angina.

2.1. Angina:

2.1.1. first arose;

2.1.2. stable;

2.1.3. progressive;

2.2. Angina at rest (synonym – spontaneous angina)

2.2.1. special form of angina (Prinzmetal).

3. Myocardial infarction.

3.1. Acute myocardial infarction:

3.1.1. definite:

3.1.2. possible:

3.2. Myocardial infarction (myocardial infarction).

4. Heart failure.

5. Arrhythmia.

6. Postinfarction cardiosclerosis

To assess patients with stable angina (SA) are the Canadian classification that divides patients into 4 functional classes:

I class. Regular physical activity does not cause angina. Angina can occur only with loads of high intensity and long-running quickly. In these patients, angina latent.

II class.Minor limitation of usual activity. Angina occur when walking and climbing stairs, walking fast uphill, walking or climbing stairs after meals, during emotional stress or in the first hours after waking up. Angina is walking on level ground at a normal pace and in normal conditions at a distance of more than 2 blocks and lifting more than one floor of an ordinary ladder. This condition can be described

as «mild angina».

III class.A notable limitation of ordinary physical activity. Angina is walking on level ground and at a normal pace for a distance of 1–2 blocks, climbing the stairs one floor. This angina «moderate».

IV class.Inability to perform any physical activity, even self-service, without the occurrence of strokes. Many patients regularly arise chest pain at rest. Sure, it's «heavy» angina.

Indications for hospitalization of patients with stable angina

Patients with ***stable angina I functional class (FC)*** requiring hospitalization only in cases of the disease first emerged with unclear nature of the flow (stable or unstable), the need for accurate diagnosis of atypical clinical presentation and the lack of the possibility of the stress tests, studies of lipid metabolism, microcirculation, etc. on an outpatient basis, as well as a combination of angina with hypertension to clarify its origin.

Patients with ***stable angina II–IV FC*** are hospitalized in a hospital in the following cases:

with atypical course and progression of the disease can not be an exception, for the diagnosis or the establishment of functional class of angina pectoris;

for refractory patients to outpatient antianginal therapy, to address the individualized selection of antianginal drugs, to identify pathogenetic features the treatment of angina;

if necessary coronarography study and surgical treatment;

difficulty in selection of therapy in patients with angina pectoris in combination with hypertension, with persistent arrhythmias, heart failure II–III degree;

expert solutions for issues that require load (pharmacological, physical) samples unrealistic in outpatient settings, including cardiologic dyspansery.

Non-drug treatments for IHD.

Physiotherapy.Physiotherapy treatments are used in the treatment of patients with coronary artery disease. In the treatment of patients with angina and use different types of physiotherapy: electric, medicine electrophoresis, electro-magnetic fields in the UHF band (UHF-therapy), a low-frequency alternating magnetic field (VMF), sinusoidal modulated currents (SMC).

Balneotherapy. Apply bath of natural mineral waters and artificially prepared their analogues: carbon dioxide, hydrogen sulfide, radon, oxygen and minerals. Bath in patients with postinfarction cardiosclerosis angina I–II FC, FC III limited (in CHF at most I ST., Exercise capacity not less than 50 watts and the absence of complex arrhythmias).

Contraindications: Stable angina FC IV with frequent attacks of angina at rest, heart failure II degree, complex arrhythmias, cardiac aneurysm, consistently high numbers of blood pressure (over 180/100 mm Hg. Cent.).

Therapeutic physical exercises. Physical training shows with angina I–II FC. FC III patients, they can be assigned, but must be subject to certain restrictions, and in patients receiving antianginal drugs. FC IV patients physical training contraindicated. They can recommend the implementation manageable exercise: morning hygienic gymnastics, walking slowly against active antianginal therapy. Patients should be informed that if during exercise, pain in the chest, irregular heart function, fatigue, shortness of breath, the load should be discontinued. At the first appearance of angina should take nitroglycerin.

Sanatorium treatment. Indications: patients with angina I–II FC without their having severe cardiac rhythm and conduction, and heart failure I degree. Patients with angina FC III can be sent only to the local sanatorium cardiology. spa treatment is contraindicated to FC IV patients.

Cardiological sanatoriums of Belarus, «Pine Forest», «Bug», «Letsy», «Vasiljevka», «Naroch», «Berestye», «Ros», «Ales», "Polesie" etc.

Among other methods of non-drug effects on patients with IHD is used in the polyclinic external laser irradiation of reflex zones of the skin, intravascular laser and ultraviolet blood irradiation, ultrasound, magnetic effect on the heart, etc.

Drug therapy of chronic ischemic heart disease.

Angina attack treatment.

Effective relief of angina attack can prevent premature death in patients with Ischemic artery disease. At the heart attack, angina pectoris is reversible myocardial ischemia. In most cases the seizure

lasts about 1 to 10 minutes. Longer reversible ischemia may be referred to as «prolonged attack of angina». If anginal attack lasts more than 20, especially 30 minutes, there is a risk of irreversible, necrotic changes in the ischemic area. Even with the reversibility of clinical ischemia can more or less lead to microdamage of miocardiocytes and their organelles. In addition, the anginal attack, which began as a lightweight, completely harmless, may become severe and result in irreversible ischemic necrotic changes, ie, myocardial infarction, and sometimes adverse outcome, ending a sudden death. Therefore, the more quickly and completely stopped by the attack, the better both the immediate and long-term prognosis.

The doctor should clearly explain to the patient the importance of rapid and complete relief of angina attack, bring to his mind, that in this disease, patients may live for tens of seconds, when «the first episode is the last», to tens of years, and it is not only (and not so much) from the doctor, but also on the patient. The physician must teach the patient how to quickly and effectively on their own arrest anginal attack.

Patient must explain the purpose of nitroglycerin and emphasize that it is irreplaceable, so you should always have it with you;

– To teach the patient to use nitroglycerin, to explain to him what treatment is best to start with lower dosages (1/4 or 1/5 or 1/2 tablet) as the possible side effects may frighten the patient, and he will avoid taking this medication. Tablets and capsules must dissolve for 10–20 seconds. Feeling of warmth or burning on site of absorption of the drug and the occurrence of tremors in the head indicate that the medicine has come;

– Patients need to explain that you can get used to nitroglycerin and its side effects (headaches) is gradually reduced. To reduce this discomfort the simultaneous reception and validola, and you can reduce these side effects while taking aspirin or acetaminophen;

– The patient should clearly understand that independently from the fact whether angina occurs is short, easy or hard, you need to take nitroglycerin required. Explain to him that the sooner he will take the medicine, the more relief will come;

– The physician should explain to the patient in the absence of the desired effect for 5 minutes after taking it needs repeated

nitroglycerin, but not more than 2–3 times. If no effect within 5–10 minutes after the re-taking nitroglycerin should be resorted to calling emergency doctor for administration of analgesics;

– Suction of oral antianginal drug begins in 40–50, after a maximum of 60 seconds and lasts up to 20 minutes;

– The patient must be aware that for the relief of angina attack at home or in a hospital, you can use other than nitroglycerin tablets Nitroglycerin spray (izoket spray, nitromint) by pressing the spray solution is sprayed under the tongue, not inhaling it;

– The patient has to remember that for the relief of angina attack can be used and oil solutions in capsules, which are slower and less comfortable, if used for a more rapid effect, a gelatin capsule crushing teeth in the mouth;

– In the absence at the time of the above forms of angina attack nitroglycerin fast action, but in the presence of his prolonged forms say sublingual latter. In this case, they should be chewed. Recommended by poor tolerability of nitroglycerin or its lack of effect take sublingual isosorbide dinitrate (nitrosorbil.) of 5 or 10 mg, molsidomine (dilasidom) 2 or 4 mg. In this antianginal effect begins about 3–3,5 minutes, i.e. later than nitroglycerin, but for a longer period;

– Clinical observations indicate that isosorbide sublingual or dilasidom is better tolerated by patients of older age groups. But even in these cases it is necessary to bear in mind that the dose of nitroglycerin in prolonged forms much more (milligrams), therefore, a complete and rapid absorption into the oral cavity in patients sensitive to nitroglycerin may result in adverse consequences to a sharp drop in blood pressure and collapse. Is in any reduction in blood pressure, the patient should quickly swallow the drug. Retard sublingual nitroglycerin should not be used, they are only to prevent strokes.

Adverse reactions to the use of nitrates:

Headache, hypotension, and tachycardia.

General contraindications for the use of nitrates:

Absolute contraindications:

– known allergic reaction to nitrates, hypersensitivity to them;

– pronounced hypotension (systolic blood pressure of 95–100 mm Hg., Diastolic blood pressure below 50–60 mm Hg), collapse,

shock;

− myocardial infarction, flowing with severe hypotension, collapse, shock;

− noncurable hypovolemia;

− pericardial constriction and cardiac tamponade (intravenous);

− bleeding in the brain, severe brain injury, cerebral ischemia (intravenous);

− toxic pulmonary edema;

− form-closure glaucoma with high intraocular pressure (with open-angle glaucoma are not contraindicated).

Relative contraindications:

− increased intracranial pressure;

− asymmetric hypertrophic kardiomiopaptya;

− severe aortic or mitral stenosis (when necessary to maintain the filling pressure or volume of the left ventricle);

− poor individual tolerance due to increased sensitivity to nitrates (sharp headache):

− severe hypotension and tachycardia;

− severe anemia;

− pronounced aortic stenosis (reduced left ventricular filling pressure, to extreme hypotension);

− in the first 3 months of pregnancy and during lactation.

Currently, *nitrates* consist of the three main drugs: nitroglycerin, isosorbide dinitrate and isosorbide-5-mononitrate. There are no fundamental differences in their pharmacological effects. More important classification of nitrate formulations of short-acting (<1 h), moderately long-acting (<6 hours) and a significant long-acting (6–16 hours, sometimes up to 24 hours).

Physicians should be aware that the use of long-acting nitrates in patients 6-8 weeks may occurs weakening antianginal effect. One reason may be getting used to the drug. To reduce this effect nitrates administered intermittently after 6–8 hours, using drugs with significant prolonged effect. With the weakening of antianginal effect is enough to make a break in employment of 3–7 days and the sensitivity is usually restored. At the break, the patient must be assigned one of the drugs from the group of calcium channel blockers if the patient carried monoterapiya nitrates or molsidamin.

β-blockers.

The second group of drugs that have found wide application in the treatment of various forms of IHD include beta-blockers (β-AB). These drugs solve two problems of therapy:

– Improve life prognosis of patients with previous myocardial infarction;

– Have a pronounced anti-anginal activity;

– Have antiarrhythmic action.

Therefore, β-AB should be prescribed to all patients with stable angina, and especially persons with a history of MI. Preference should be given a cardioselective β-AB. They are less than non-selective β-AB have side effects and their effectiveness is proven in large clinical trials.

District physician have to remember:

1. All β-AB, regardless of election activities, the availability of intrinsic sympathomimetic activity, pharmacokinetics, have a relatively long clinical effect in patients with angina adequately selected dose.

2. The optimal dose of β-AB is individually based on clinical effect: reducing the number or complete disappearance of angina and improve exercise tolerance

3. Selection of the optimal dose of β-AB requires monitoring of heart rate and blood pressure levels, but should not be afraid of moderate bradycardia, as often only when deceleration of the heart rate to 60–55, sometimes up to 50–52 beats per minute more fully begins to show anginal effect of the drug. Important, not the degree of bradycardia, and its portability. Consequently, moderate sinus bradycardia is not a contraindication for use β-AB, as not all patients are marked slowing of heart rate in response to their reception. The same applies to the reduction in blood pressure, although the overall β-AB have little effect on its normal size.

4. In the event of bradycardia for its correction may use drugs atropine. Decrease vagal tone, without affecting the effect of β-AB, will be accompanied by heart rate acceleration.

5. Treatment of β-AB should start with small doses. For metoprolol is 12,5–25 mg 2 times a day for 15–20 minutes before eating. Sorting out the effect of the drug on the patient, can be, and

often need to increase the dosage every 3–5 days, achieving a clear improvement. If necessary, increase the dose of 12,5–25 mg daily. We must remember that the optimal dose of metoprolol is 100–150 mg daily. Maximum beneficial effect of the drug is 1,5–2 weeks of treatment. For Bisoprolol of the initial dose may be 2,5 mg 1 time a day, with a gradual increase in dose of 2,5–5 mg every 5 days to 10 mg per day.

The special position of β-AB have Nebivolol, which has vasodilating cardioselective excretion NO stimulating effects. Nebilet has a positive effect on metabolic parameters:

reduces the level of glucose in hypertensive patients with diabetes and patients with impaired carbohydrate tolerance;

increases the utilization of glucose and improves insulin sensitivity in patients with type 2 diabetes;

normalizes the levels of total cholesterol and HDL-cholesterol and LDL.

Average daily dose is 2,5–5 mg.

6. The duration of the β-AB is determined individually according to the clinical course of the disease and tolerability. Treatment if it is effective may be long (months, years).

7. Cancel β-AB should be done gradually, since the rapid abolition of severe reactions can occur in the form of increased frequency of angina, myocardial infarction, occurrence of cardiac arrhythmias and even sudden death («withdrawal»).

8 β-AB can be combined with other drugs, including nitrates, calcium antagonists and diuretics.

9. Inappropriate to apply the β-AB with calcium antagonists of the group verapamila (Isoptin, finoptin) due to the increased negative inotropic effect and a possible sharp oppression atrioventricular conduction.

10. We must remember that prolonged use of β-AB leads to changes in lipid metabolism (increased atherogenic lipoproteins).

Calcium channel blockers.

The third group of antianginal agents, widely used in the treatment of patients with coronary artery disease, is a calcium channel blockers.

Their mechanism of action is complex and mainly confined to the following:

1.They reduce the preload on the heart by reducing venous inflow.
2. Reduce afterload due to peripheral arterial vasodilation.
3. Alter diastolic relaxation.
4. Increase coronary blood flow and coronary perfusion.
5. Predotvrashayut coronary vasospasm.
6. Inhibit platelet aggregation.
7. Protect the myocardium from hypoxia.
8. Have anti-atherogenic effect.
9. Lack of habituation.

Classification

Two groups of calcium channel blockers (CCB):

dihydropyridines (nifedipine 10–20 mg orally or sublingually (currently used only for treatment of hypertensive crisis), amlodipine, (Norvasc), felodipine 5–10 mg 1 time a day, isradipine 2–5 mg 2 times a day, lerkanidin 10 mg 1 tab. once a day).

nondihydropyridines: phenylalkylamine (verapamil 40–80 mg Isoptin 40–80 mg 2–3 times a day, Isoptin-SR 240 mg 1–2 times a day, finoptin 40, 80, 120 mg 2–3 times a day);

benzodiazepines (diltiazem 30.60 mg 3 times daily, diltiazem – retard 180 mg 1–2 times a day, altiazem 120 mg 1–2 times a day).

The mechanism of action of CCB varies considerably. In the properties of dihydropyridines peripheral vasodilation dominates, actions of *nondihydropyridines*: – negative chronotropic and inotropic effects. *Nondihydropyridines*: CCB used instead of β-AB, in cases where the latter are contraindicated (COPD, marked peripheral artery disease of the lower limbs).

All CCB appointed only in the form of second-generation - long-acting formulations used one time per day.

Angiotensin-converting enzyme (ACE).

Symptoms of stable angina or myocardial infarction - indications for ACE inhibitors in patients with chronic coronary artery disease.When poor tolerability of these drugs are replaced by receptor antagonists, angiotensin II (ARB). In the large controlled studies have shown that the use of ramipril and perindopril reduces the occurrence of cardiovascular complications (CVC), including the risk of

myocardial infarction and death from cardiovascular complications. ACE inhibitors should be used in patients with angina pectoris in combination with arterial hypertension (AH), diabetes mellitus (DM), heart failure (HF), asymptomatic left ventricular (LV) dysfunction or myocardial infarction. Treatment starts with low doses (2,5 mg 1 time per day), gradually increasing the dose every 5 days under the supervision of AH until a daily dose of 10 mg, as it is this dose was the most effective in terms of normalization of hemodynamic parameters of the cardiovascular system (CVS).

I_f channel inhibitor.

Recently created a new class of antianginal drugs – I_f channel cells sinus inhibitor selectively slows sinus rhythm. Their first representative Ivabradine showed pronounced antianginal effect comparable to the effect of β-AB. Appointment of ivabradine patients with stable angina, left ventricular dysfunction and heart rate >70 beats/min reduces the increased risk of MI and revascularization improves. Assign Procoralan 5 mg 2 times a day, and a month – 7,5 mg two times a day.

Activators of K + channels – Nicorandil 10–20 mg 2 times a day, with the property that the three classes of assets: nitrates, calcium channel blockers and cardioprotectors – vasodilative effect without steal effect, reducing pre-and afterload by venous and arterial vasodilation, and cardioprotection («preconditioning» miocardium). May be used as monotherapy or in combination with other antianginal drugs.

Antiplatelet drugs are recommended for all patients with stable angina pectoris in the absence of contraindications (peptic ulcer disease, gastritis, stomach or intestinal bleeding, blood system diseases, hypersensitivity to the drug).

The main anti-thrombotic drug for CVD is acetylsalicylic acid (ASA). The optimal dose of aspirin 75–150 mg per day. Regular use of aspirin by patients especially with myocardial infarction, reduces the risk of recurrent MI. Can provide additional security preparations ASA enteric-coated shell (polokard) or aspirin products with antacids (cardiomagnil).

Among other antithrombotics preparty use of clopidogrel in the

same dosage of 75–150 mg, with a higher activity compared with aspirin and ticlopidine less with lower antiplatelet activity.

Lipid-lowering agents.

The most important aspect of the medical treatment of patients with CVD is the use of drugs that lower blood lipids. Fixed assets, lowering total cholesterol levels (TCh) and cholesterol in low density lipoprotein (LDL) in the blood plasma are inhibitors of HMG-CoA reductase inhibitors –*statins*. These drugs reduce the risk of atherosclerotic MTR in both primary and secondary prevention. They have a pronounced effect gipoholesterinemichesky, safe, long-term use and are well tolerated by most patients. Prescribed simvastatin 40–80 mg after dinner, lovastatin 20–80 mg, atorvastatin 10–40 mg, fluvostatin 10–40 mg, rosuvastatin 5–40 mg. Preparations preferably administered in the afternoon, after dinner, watch out for the possible increase of transaminases (AST, ALT) and creatine phosphokinase (CPK). When the enzyme levels in three or more times should reduce the dose of drugs.

With primary increase in plasma triglyceride levels should be use fenofibrat.With little effect, you can add the drug, which violates the absorption of cholesterol in the intestine (ezetimib).

Metabolic therapy.

Trimetazidine 0,35 mg 2 times a day, eliminates angina, improves the survival of patients after myocardial infarction. Thiotriazolin 0,1 mg two times a day has antianginal and anti-ischemic activity, improves metabolic processes in the heart and liver.

Surgical treatments for ischemic heart disease.

Along with drug therapy major IHD antianginal drugs (nitrates, beta-blockers and calcium channel blockers), and these drugs in combination with drugs metabolic action (trimetazidine), combined with the use of antithrombotic drugs, lipid-lowering drugs in recent years, widespread methods of revascularization infarction. They are used in patients with coronary heart disease failure of medical therapy, and in some cases as an alternative to it.

What matters most is the following methods of myocardial revascularization:

– Percutaneous transluminal coronary angioplasty (PTCA), most

often balloon angioplasty without stenting or stenting (stent graft to prevent the inner walls of the arteries wears off after being removed from her bottle);

– Bypass the coronary artery (CA), in particular the most frequently used coronary artery bypass grafting (CABG), and imposing «mammarokoronarnyh anastomoses».

Active counseling of patients with IHD.

Local doctor should perform a dynamic observation of patients 2–4 times a year depending on the FC, 1 time per year, patients should look about cardiologist, Department of rehabilitation doctor, neurologist, psychiatrist. On examination must be made one blood test once a year, to determine the spectrum of lipids and alpha-cholesterol, conducted ECG and functional tests, including VEM. Especially careful of follow-demand patients with a high risk of complications. Patsieitov such group can be allocated on the basis of clinical signs and data load testing.

Temporary disability of angina patients for a temporary disability (TD) patients is the first time emerged angina, worsening of the disease, unstable angina, myocardial infarction.

Tentative dates BH angina:

first emerged– 10–12 days or more for progressive course, *class I* patients are usually able to work, *FC II*– 10–14 days, *FC III*– 18–20 days, *FC IV*– 18–25 days prior to the registration of the direction to MREC, unstable angina 21–28 days (in the absence of myocardial infarction).

Direction to MREC.

The direction to be MREC with angina pectoris and myocardial infarction.

– With a poor employment outlook and the general prognosis

– In need of employment (for example, a person driving jobs with a favorable course of the disease, etc.);

– In need of continued treatment over a period of 4 months.

Primary and secondary prevention of IHD.

The basis of primary prevention on the concept of the main risk factors for coronary heart disease was proved that for the elimination of risk factors incidence and severity of coronary artery disease was significantly reduced.

One of the urgent tasks of outpatient phase of rehabilitation, ischemic heart disease, including myocardial infarction, a secondary prevention. The aim is to prevent further progression of the disease, its prevention of exacerbations and complications. Measures for the secondary prevention of coronary heart disease is closely intertwined with the healing and rehabilitation. At the same time, in terms of secondary prevention special attention must be given to the active impact on the existing risk factors for IHD. They are causally related to disease factors.

Reduction of excess body weight in patients SS reduces breathlessness and reduce the frequency of angina attacks, improve physical performance.

Stopping smoking reduces the risk of a second heart attack by 20–50%.

Long-term exercise training helps slow the progression of coronary artery disease to reduce the doses of drugs.

LESSON № 5 Primary and secondary hypertension, somatoform autonomic dysfunction (cardiopsychoneurosis). Outpatient aspects of diagnosis and treatment, medical tactics, medical-social examination, dispanserization, primary prevention.

Arterial hypertension

In industrialized countries, hypertension (AH) affects approximately 15% of the adult population. According to health authorities in Belarus in 2010 there are 1,5 million patients with hypertension.

The problem is of great social significance, since hypertension is one of the causes of persistent ugraty disability. Successful control of hypertension and prognosis of the disease depends largely on how early and correct diagnosis, and on the necessary organization and the effectiveness of treatment of patients in the polyclinic.

Patients with uncomplicated hypertension all diagnostic and medical care is provided in the clinic. Here are the basic principles on the basis of which the differential diagnosis of hypertension in the clinic.

Criteria for diagnosing hypertension are determined by the results of the daily blood pressure monitoring (DBPM), measurements

of blood pressure at the doctor's (office BP) as well as by the patient at home. The presence of hypertension in DBPM evaluation shows DBP >130/80 mm Hg, as measured health worker at two or more consecutive appeals patient blood pressure >140/90 mm Hg, and in self-measurement at home conditions of blood pressure >135/85 mm Hg

Analysis of patients with hypertension in a clinic

Objectives of the survey:

– To confirm the stability of the blood pressure increase;

– To exclude secondary to blood pressure;

– Install removable and irremovable risk factors for cardiovascular disease;

– To evaluate the presence of target organ damage, heart disease and other related diseases;

– Assess individual risk of cardiovascular complications.

– When analyzing the medical history should be obtained following information:

– A family history of hypertension, diabetes, efficacy and tolerability of previous antihypertensive therapy;

– The presence of ischemic artery disease or heart failure, cerebrovascular disease, peripheral vascular disease, diabetes, gout, dyslipidaemia, bronchospasm, sexual dysfunction, kidney disease, information about the drugs used to treat existing conditions;

– Symptoms suggestive of a secondary nature of AH;

– The patient's lifestyle, including diet (consumption of fat, salt, and alcohol), smoking, physical activity, presence of overweight or obesity (body mass index, the amount of waist/hip to assess the distribution of adipose tissue);

– The administration of drugs that increase blood pressure (oral contraceptives, non-steroidal anti-inflammatory drugs, cocaine, amphetamines, erythropoietin, cyclosporine, steroids);

– Personal, psychosocial and other factors (family environment, work, education), the ability to influence the commitment to antigipertensive therapy.

Complete physical examination includes:

– 2–3 times the measurement of blood pressure in accordance with international standards,

– Height, weight, calculation of body mass index, waist circumference measurements and hip ratio calculation waist/hip;

– Investigation of the eye fundus, to establish the degree of hypertensive retinopathy;

– Study of the cardiovascular system: the size of the heart, change colors, noises, signs of heart failure pathology of carotid, renal, and peripheral arteries, koartatsiya aorta;

– Study of the lungs (rales, signs of bronchospasm);

– Study of the abdomen (vascular noise, increasing renal pathological pulsation of the aorta);

– Investigation of peripheral arterial pulsation and the presence of edema in the extremities;

– Study of the nervous system to clarify the presence of cerebrovascular disease.

Binding studies that should be done before treatment in order to identify target organ damage and risk factors:

– Analysis of the urine;

– Expanded TBC;

– Blood chemistry (potassium, sodium, creatinine, glucose, total cholesterole and HDL);

– 12-lead ECG.

Special studies are conducted when the results may influence the treatment strategy of the patient:

– Advanced blood chemistry with the definition of low-density lipoprotein cholesterol, triglycerides, uric acid, calcium, glycated hemoglobin;

– Determination of creatinine clearance;

– Plasma renin activity, aldosterone levels, PG, T4;

– Study of daily urine (microalbuminuria, daily proteinuria, and urinary catecholamine excretion);

– Echocardiography, USI of kidney, ambulatory blood pressure monitoring;

Angiography, computed tomography.

Daily monitoring provides essential information on the mechanisms of cardiovascular regulation, in particular, reveals the daily variability of blood pressure, nocturnal hypotension, homogenity of the hypotensive effect of antihypertensive drugs. To date, however,

this method is not very common for a diagnosis of hypertension and has no standard evaluation.

The use of special methods of investigation to determine the cause pressure rise shown in the following cases:

- Age, medical history, results of physical examination and routine laboratory tests, the severity of hypertension does not exclude its secondary character;
- Sufficiently rapid increase previously benign flowed AG:
- The presence of crises with severe autonomic manifestations;
- AH III degree, and hypertension refractory to medical therapy;
- Sudden onset of hypertension

Diseases that can be recognized on the basis of the primary subjects of the study materials in the clinic as causes of ***symptomatic hypertension:***

Renal hypertension:

- Chronic glomerulonephritis
- Chronic pyelonephritis
- Diabetic nephropathy
- Polycystic kidney disease.
- Kidney involvement in systemic vasculitis
- Renal amyloidosis
- Tuberculosis of kidney
- Tumor and kidney injury
- Nephropathy in pregnants
- congenital anomalies of the positions and forms of kidney disease (hypoplasia, double, dystopia, hydronephrosis, horseshoe kidney).

Renovascular hypertension:

- Renal artery atherosclerosis
- Fibromyshechnaya dysplasia renal artery
- Nonspecific aortoarteriit
- Hematoma and tumor compressing the renal arteries
- Congenital atresia and hypoplasia of the renal arteries, angiomas and arteriovenous fistula, aneurysm

Endocrine hypertension:

The defeat of the adrenal cortex: hypersecretion of mineralocorticoids (primary aldosteronism and idiopathic

aldosteronism, familial form of hyperaldosteronism type I)

Hypersecretion of glucocorticoids (Cushing's syndrome)

The defeat of the adrenal medulla: hypersecretion of catecholamines (pheochromocytoma)

Dysfunction of the thyroid and parathyroid glands (hypothyroidism, hyperthyroidism, hyperparathyroidism)

With the defeat of the pituitary gland (pituitary Cushing, acromegaly)

Hypertension caused by the damage of major arterial atherosclerosis, aortic coarctation, stenosing lesions of the aorta and brachiocephalic arteries nonspecific aortoarteriit.

Neurogenic or central AG.

In organic CNS lesions (tumors, trauma, encephalitis, polio, focal ischemic lesions), the syndrome of obstructive sleep apnea, lead poisoning, acute porphyria.

Drugs and exogenous substances that can cause hypertension: hormonal contraceptives, corticosteroids, sympathomimetics, mineralocorticoids, cocaine, foods containing tyramine or MAO inhibitors, NSAIDs, cyclosporine, erythropoietin.

Somatoform autonomic dysfunction.

A group of disorders that manifest symptoms of internal organ or organ system, but do not have an objective basis recorded. Complaints such patients are presented as though they are caused by physical disorder of the system or organ, which mainly or entirely under the influence of the autonomic nervous system, ie cardiovascular, gastrointestinal or respiratory system. The most frequent and prominent examples include the cardiovascular system. Somatoform autonomic dysfunction of the heart and cardiovascular system (includes cardioneurosis, neuro-circulatory asthenia, Da Costa's syndrome).

Symptoms usually come in two types:

– The first type of symptoms, which is largely based diagnostics, characterized by signs of autonomic arousal (heart rate, sweating, flushing, and tremor).

– -The second type is characterized by a sense of fleeting pain in the heart, burning, heaviness.

One of the most frequent in the structure of somatoform

autonomic dysfunction of the cardiovascular system is cardialgyc syndrome, which is characterized by polymorphic and variability, the lack of clear irradiation, the appearance alone with emotional stress, long hours – day, exercise does not provoke, and relieves pain. Cardialgia is often accompanied by anxiety, patients do not find a place for himself, moaning and groaning. Palpitations in this type of disorder in only half of cases accompanied by increased heart rate of 110–120 beats per minute at rest increased, especially in the supine position. Unstable increasing pressure to 150–160/90–95 mm Hg, which appears in the background of stress, can also occur with somatoform disorders. Characteristically, the treatment more effective than with antihypertensive drugs are tranquilizers.

The main provisionsfor identifying,screening, follow-up andtreatment of patientswith hypertensionare set out inthe orderof Ministry of Healthof Belarus №225 of03.09.2001 y.

Classification.

Table 11 - (WHO/ISH – 1999), as modified ESH-ESC Guidelines Committee 2007, National Guidelines 2010

Criteria BP	SBP	DBP
Optimal	<120	<80
Normal	120–129	80–84
High normal	130–139	85–89
AH stage I	140–159	90–99
AH stage II	160–179	100–109
AH stage III	>180	>110
Isolated systolic hypertension (isolated systolic hypertension)	>140	<90

If the systolic and diastolic blood pressure corresponds to different degrees of hypertension, blood pressure of the person should be referred to a higher category. For example, blood pressure to 165/95 mm Hg. should be considered as AH II stage, and blood pressure 212/108 mm Hg. – As AH III stage.

In accordance with WHO/ISH hypertension diagnosis in the statement must specify not only the rate of increase in blood pressure,

but also the risk of an adverse outcome in view of all the factors influencing the prognosis. There are main risk factors that are taken into account when formulating a diagnosis, support, influence prognosis, but not taken into account when you make a diagnosis.

Criteria for risk stratification:

Risk Factors

value of pulse pressure (in the elderly)

age (men >55 years: women >65 years)

smoking

Lipids: TCh >5,0 mmol/l (190 mg/dL) or LDL cholesterol >3,0 mmol/l (115 mg/dL) or HDL cholesterol <1,0 mmol/L (40 mg/dL) for men <1,2 mmol/L (46 mg/dL) for women or triglycerides >1,7 mmol/l (150 mg/dL)

fasting plasma glucose 5,6–6,9 mmol/L (102–125 mg/dL)

IGT

Family history of early cardiovascular events (men <55 years in women <65 years)

abdominal obesity (from >102 cm for men and >88 cm for women) in the absence of metabolic syndrome (MS)

Target organ damage (TOD)

LVH

– ECG: a sign of the Sokolov-Lyons >38mm Cornell product >2440 mm x ms.

– Echocardiography: LVMI > 125 g/m^2 in men and >110 g/m^2 in females.

Vesseles

– ultrasound signs of arterial wall thickening (IMT >0,9 mm) or plaques of great vessels;

– the pulse wave velocity from the carotid to the femoral artery >12 m/s;

– ankle/brachial index <0,9.

Kidneys

– slight increase in serum creatinine: 115–133 mmol/L (1,3–1,5 mt/dL) for men or 107–124 mmol/L (1,2–1,.4 mg/dL) for women;

– low KFR <60 ml/min/1,73m^2 (MDRD formula) or low creatinine clearance <60 mL/min (Cockcroft Gault formula);

– microalbuminuria 30–300 mg/day;

– albumin/creatinine ratio in the urine of >22 mg/g (2,5 mg/mmol) for male and >31 mg/g (3,5 mg/mmol) for females.

Diabetes mellitus

– fasting plasma glucose >7,0 mmol/l (126 mg/dL) with repeated measurements;

– plasma glucose after meals or 2 hours after a 75 g glucose >11,0 mmol/L (198 mg/dL).

Metabolic syndrome.

The main criterion – AO (from> 94 cm for men and >80 cm for women).

Additional criteria:

BP >140/90 mm Hg,

LDL cholesterol >3,0 mmol/L, HDL cholesterol <1,0 mmol/L for men and <1,2 mmol/L for women, triglycerides >1,7 mmol/L, fasting hyperglycemia >6,1 mmol/L,

IGT – plasma glucose 2 hours after taking 75 g glucose >7,8 and ≤11,1 mmol/L.

The combination of the main and 2 additional criteria points to the presence of MS.

Associated clinical conditions (ACC).

Cerebrovascular diseases: ischemic brain infarction, hemorrhagic brain infarction, transient ischemic attack.

Heart disease: myocardial infarction, angina, coronary revascularization, heart failure.

*Hypertensive retinopathy:*hemorrhages or exudates, papilledema.

Kidney disease: diabetic nephropathy, renal failure: serum creatinine >133 micromol/L (1,5 mg/dL) for men and >124 umol/L (1,4 mg/dL) for women.

Peripheral arterial disease: dissecting aortic aneurysm, peripheral artery disease.

Factors determining the prognosis of hypertensive target organ damage and associated clinical conditions that should be considered in the risk assessment. Particularly sharply increases the risk of the combination of high blood pressure, obesity, and hyperglycemia giperholesterenemii known as «deadly quartet».

Examples of formulations diagnosis:

– Hypertension II degree, risk 2, hypercholesterolemia;

− Hypertension II degree, risk 3, hypertensive heart, ventricular premature beats;

− Hypertension III degree, risk 4, CHD: angina, PCF, postinfarction (1999 r) infarction, left ventricular aneurysm;

− Hypertension I level, risk 1, hypertensive crisis one way (10/10/00) mild;

− Hypertension III degree, risk 4, hypertensive kidney nefroangioskleroz, CRF II Art.

Table 12 - Clinical management and evaluation of patients with newly diagnosed with elevated blood pressure

Systolic blood pressure	Diastolic blood pressure	Recommendations
130–139	85–89	Healthy Lifestyle, control after 1 year
140–159	90–99	Healthy Lifestyle control during 3 months
160–179	100–109	Investigate and start treatment in 1 month
>180	>110	Investigate and start treatment immediately

Testimony to the direction of the hospital patients with hypertension.

Patients with hypertension should be treated continuously, almost all my life. In this regard, the main burden of nabtodeniyu and treatment of patients falls on doctors of outpatient practice. Opening of diagnostic centers and cardio in all regional cities of the country allowed to expand the scope of diagnostic examination of hypertensive patients, conducted in an outpatient setting. In this case, the indications for hospitalization include:

1. Acute disorders of coronary or cerebral circulation.
2. Hypertensive crisis secondary to severe.
3. Refractory to antihypertensive therapy of hypertension.
4. Survey to identify the degree of target organ damage, if it can not be done on an outpatient basis
5. The emergence or worsening of arrhythmia, conduction of the heart, cardiac and/or renal failure.

When *district physician or cardiologist directs a patient in a hospital, he should mark:*

1. The purpose of admission.

2. Outpatient examination results: Feature blood and urine tests, an electrocardiogram, an ophthalmologist consultation, blood chemistry (gtokoza, cholesterol, urea and creatinine), REG.

3. Character antihypertensive treatment, its effectiveness portability of individual drugs.

4. The motivation of the patient to non-drug and drug treatment.

Indications for referral to Cardiology center:

1. Need to clarify the extent of target organ damage in cases where this is not possible in the clinic (holding VEM, Holter ECG monitoring, echocardiography).

2. Refractory to antihypertensive therapy AG to clarify the causes of refractoriness.

3. Frequent hypertensive crises II order or temporary incapacity for prolonged hypertension within 6 months of treatment for the correction.

Treatment of hypertension.

The principles of non-drug treatment of hypertension

1. Lifestyle changes:

Reduce overweight.

Quitting.of smoking.

Limiting alcohol consumption to 168 ml of 100% alcohol per week for men and up to 112 ml per week for women.

2. Diet therapy

Diet therapy should include:

− Substantially reduce dietary sodium intake to 2 g/day or 5 g of salt per day;

− Reducing the overall kollarazha especially in individuals who are overweight;

− Increase in the consumption of vegetable products in order to saturate the body with potassium ions, calcium and magnesium (tomatoes, oranges, potatoes, especially baked, raisins, dried apricots, etc.);

− The use of milk (if tolerated) or milk products that are rich in calcium salts, increasing the share of vegetable fats, rich in

polyunsaturated fatty acids, while reducing the share of animal saturated fat;

- Add fish oils;
- Limiting the consumption of caffeine (tea, coffee, etc.).

3. Physical rehabilitation

Optimization of physical activity using exercise, exercise endurance (fast running, walking, skiing, and swimming). We recommend regular physical activity (exercise in the open air of moderate intensity and duration of at least 30–60 minutes 3–4 times a week).

4. Psychotherapy

Education appropriate response to stressful situations, as well as relaxation techniques.

5. Acupuncture

Especially with the type of hyperkinetic circulation.

6. Leech

This therapy is increasingly used, especially in the elderly.

7. Phytotherapy

8. Physiotherapy

Drug treatment of patients with hypertension.

These modern evidence-based medicine clearly show that the main condition for the successful impact on the outcome of hypertension is to achieve «target levels» of BP. According to national guidelines for the diagnosis and treatment of hypertension 2007, so the «target level» is 140/90 mm Hg. Art., and in persons with diabetes – less than 130/80 mm Hg. Art.

Achieving «target» with BP alone is possible only in 30–50% of patients. In patients with Stage II and Stage III.in the presence of target organ damage (TOD), diabetes, metabolic syndrome, monotherapy can be effective only in a few cases, requiring the appointment of maximal doses of drugs that can cause several side effects. Therefore, in large clinical trials to achieve a «target» of BP in these patients, it was possible only with the use of a combination of two or more drugs. These data were obtained from the results of a series of multicenter studies: SHEP, MAPHY, ALLHAT, INVEST, LIFE, STOP, COOPE, the results of which are included in the Russian recommendations (third revision), «Diagnosis and treatment of

hypertension», 2008.

Group of antihypertensive drugs (AHD)

angiotensin-converting enzyme inhibitors (ACE inhibitors);

angiotensin II receptor blockers, (ARBs);

calcium antagonists (CA);

β-blockers (β-AP).

Diuretics.

As additional classes of AHDs for the combination therapy can be used α-blockers (α-AB) and imidazoline receptor agonists.

Newly registered and approved for use direct renin inhibitor aliskiren - the first of a new class of AHD.

In recent years, as recommended by the European Society of Hypertension (ESH) in collaboration with the European Society of Cardiology (ESC) recommended a new, more selective aldosterone receptor antagonist –*eplerenone.*

The main criteria for the appointment of medical therapy is membership in a risk group, and not the rate of increase in blood pressure. At high and very high risk along with carrying out the program of non-pharmacological therapy with the drug should be administered immediately. In groups of patients with middle and lower risk of non-pharmacological treatment is prescribed with the program, controlling blood pressure and risk factors. Duration of non-drug treatment in the group of average risk – 6 months in the low-risk 12 months. Particular attention should be paid to patients with high normal blood pressure (130–139/85–89), who has diabetes, kidney failure. These patients should be given early antihypertensive treatment for the prevention of cardiovascular complications.

General principles of drug treatment of hypertension:

– Patients should be informed that treatment of hypertension is held for life;

– Patients should be aware that there is a course of treatment of hypertension;

– The beginning of treatment with low doses of a single drug with a gradual increase in dose;

– Treatment of patients with hypertension should be done individually, based on the level of blood pressure, and other risk factors;

– Lowering blood pressure is conducted gradually, over several weeks and months, you should seek the optimal level of blood pressure for each patient;

– Move to another class drugs with little effect of treatment after increasing the dose of the first drug or bad its portability;

– The use of long-acting drugs, which are softer and obespschivayut constant hypotensive action, capturing the morning;

– Use of optimal drug combinations for maximum hypotensive effect and minimal adverse events.

The choice of the drug affected by the following factors are the most important:

– Risk factors for cardiovascular disease in the patient;

– TOD;

– AKC, kidney damage. MS, DM;

– The presence of underlying disease, which may limit the use of antihypertensive drugs of this class;

– Variability in the response of individual patients to drugs of individual classes;

– Interaction with drugs that the patient uses for other reasons;

And social and economic factors that determine the availability of a drug to the patient.

The goals of treatment (European guidelines on hypertension treatment, 2007.)

1. Reduction in the overall risk of cardiovascular morbidity and mortality:

– Correction of reversible risk factors for cardiovascular disease and mortality (smoking, dyslipidemia, diabetes);

– Treatment of associated medical conditions;

– Decrease in blood pressure.

2. Reducing CBFP BP:

– <140/90 mm Hg. Art. – In all hypertensive patients provided good tolerability;

– <130/80 mm Hg. Art. – In patients with diabetes;

– <125/75 mm Hg. Art. – Diabetic patients with proteinuria >1 g/day;

– Up to 150/90 mm Hg. Art. – Persons older than 80 years.

Achieving «target» with BP alone is possible only in 30–50% of

patients. In patients with Stage II and Stage III.in the presence of target organ damage (TOD), diabetes, metabolic syndrome, monotherapy can be effective only in a few cases, requiring the appointment of maximal doses of drugs that can cause several side effects. Therefore, in large clinical trials to achieve a «target» of BP in these patients, it was possible only with the use of a combination of two or more drugs.

Recommended combinations of antihypertensive drugs.

Rational (effective):

ACEI + diuretic;

ARB + diuretic;

ACEI + CCB;

ARB + CCB;

dihydropyridine CCB + β-AB;

CCB + diuretic; β-AB + diuretic; β-AB + α-AB.

Possible:

dihydropyridine and non-dihydropyridine combination CCB;

ACEI + β-AB;

ARB + β-AB;

ACEI + ARB;

α-AB with ACE inhibitors;

ARB + diuretic;

CCB + diuretic.

Irrational

β-AB + non-dihydropyridine AK;

ACEI + potassium-sparing diuretic;

β-AB + medication central action.

In recent years, more and more often use a fixed combination of drugs. especially in rational combinations, for example, the equator (diroton + amlodipine), lizoretik (lisinopril + hydrochlorothiazide), Co-Sentor (losartan + hydrochlorothiazide), etc.

Medical-social expertise in hypertension

The basis for the temporary disability (TD) in hypertension are 2 types of hypertensive crisis, increased frequency of occurrence or arrhythmias and conduction of the heart, the growing signs of heart or kidney failure, the appearance of clinical symptoms indicating a worsening of regional circulation (eg, dizziness, increased frequency

of angina attacks) .

In patients during the crisis of type 2 develop cardiac complications (angina, heart failure, arrhythmias, etc.) and the brain (transient focal neurological symptoms), terms are extended to BH rectify violations and stabilization (average 2–3 days).

After the crisis criterion discharge of patients to work is a stable compensation of pathological process. The doctor should be aware that patients with stage I or II without end-organ damage is not recommended to work associated with significant physical and mental stress, as well as being in bad weather and operating conditions (in a hot, humid, cold, damp room with the production noise, vibration, night shifts, duty, etc.). These patients show employment through the MAC. The characteristics of labor is contraindicated in hypertensive patients with involvement of target organs and the presence of concomitant medical conditions.

The basis for sending a patient with hypertension at MREC are:

1. Prolonged TD (4 consecutive months or 5 months with breaks in the past 12 months) for evidence of a disability or a decision on the extension of the treatment. If MREC finds signs of disability and recommends the extension of treatment, viral load will be extended by the decision of the MAC over the said period.

2. Signs of disability.

Criteria for disability

Disability is defined for persons with disabilities of various aspects of life caused by the dysfunction of the organs and systems.

For the Disabled in hypertension lead:

1. Repeated hypertensive crises during treatment.

2. Expressed human-organ (heart, kidney, brain syndrome, impaired visual function).

3. Unfavorable course of hypertension with a worsening of its extent in spite of treatment, the growth of end-organ damage.

4. The presence of the syndrome of mutual aggravation of diseases (with concomitant ischemic artery disease, diabetes, chronic cerebral vascular insufficiency, chronic obstructive bronchitis, asthma, etc.) so that the restriction of life occurs when less functional disability caused by certain diseases. In patients with hypertension occurs more often limit the ability to work, less limitation of

independent movement and self service. Other aspects of life (orientation, communication, behavior control) in hypertension is rarely violated, mainly in brain complications.

Dispanserization of patients with arterial hypertension

All patients with hypertension are in the third or fourth group of dispanserization (D III or D IV). Depending on the severity of the disease, they are examined by a physician 2 to 4 times a year. At least 1 time a year, they should be assessed a cardiologist, neurologist, neuropsychiatrist, an ophthalmologist. Consult an endocrinologist and urologist performed when indicated. Besides going all hypertensive patients should be conducted the following laboratory and other diagnostic tests: urinalysis – 2–4 times a year, blood creatinine, cholesterol, triglycerides, alpha-cholesterol, ECG. Other studies – if necessary (REG, central hemodynamics, renal and heart ultrasound).

Dispanserization of hypertensive patients should always include listed below the main therapeutic measures. District phisician should explain to the patient the importance of these events and in the correct form to recommend their implementation.

Treatment held at dispanserization of patients with arterial hypertension:

1. Training in healthy lifestyle.
2. Correction of risk factors of hypertension, restriction of salt in foods and saturated fats.
3. Conducting psychotherapy.
4. The use of physical therapy techniques and exercise therapy.
5. Drug prevention and treatment, the use of antihypertensive drugs on the speed chart.
6. Sanatorium treatment.
7. Employment guidelines and monitoring their's implementation.

The criteria for the effectiveness of dispanserization of patients with hypertension are: reduction of primary disability, the incidence of stroke, myocardial infarction and sudden cardiac death, as well as increase the number of individuals with controlled blood pressure (≤140/90 mm Hg.), reduced the incidence of temporary disability.

Primary and secondary prevention

Measures for primary and secondary prevention of hypertension

aimed at improving the way of life in general. The main importance is the fight against avoidable risk factors, especially in patients with risk factors for unrepaired. Should aggressively seek to reduce blood pressure breaker failure in the general population, as it is the primary prevention of hypertension will prevent future development oslozhieny the disease.

Secondary prevention of hypertension involves preventing the progression of the disease and associated complications. This can be achieved by assigning a patient a rational, adequate individualized antihypertensive therapy and the patient wishes to be treated. Numerous and long-term clinical observations show that this tactic of antihypertensive therapy is very effective, able to delay the progression of the disease, reduce the incidence of complications such as stroke, myocardial infarction, and so on.

Secondary prevention measures will certainly not be limited to the use of antihypertensive drugs. They involve the use of a set of measures used for the primary prevention of hypertension.

Thus, the active detection of persons threatened by hypertension, as well as proper treatment of persons with already established hypertension are a real prospect of not only reduce the incidence of this form of heart disease, but also a significant decrease in the number of severe complications and death with her.

LESSON № 6. Chronic gastritis, peptic ulcer and duodenal ulcer.Outpatient aspects of diagnosis and treatment, medical tactics, medical-social examination, clinical examination, primary prevention. Emergency care for acute abdominal pain and suspected gastrointestinal bleeding.

Chronic gastritis

Chronic gastritis (CG) is a chronic inflammation of the gastric mucosa, which is combined with the violation update (refresh) of the epithelial cells with the outcome of atrophy, impaired secretory, motor and endocrine function. So, first of all, CG - is morphological concept.

CG – a collective concept that brings together different etiology and pathogenesis of inflammatory or disregenerative (focal or diffuse) lesions of the mucous membranes of the stomach and submucosa with

symptoms of progressive atrophy, functional and structural adjustment, with different clinical manifestations. All this makes the diagnosis of gastritis is very difficult, especially in the early stages of the disease process. Syndrome of gastric dyspepsia, combining clinical symptoms such as epigastric pain, loss of appetite, indigestion, nausea and vomiting are observed in many diseases of the stomach.

The most common cause of chronic gastritis is Helicobacter pylori infection. The source of Helicobacter pylori infection is an infected person and pets. The main route of infection contact-household (oral-oral or fecal-oral).

Classification

In medical practice widely used classification P.Y. Grigoriev.

Classification of CG (Strickland & Mackay, 1973, Grigoriev PY et al, 1989).

On the mechanism of development:

- hepatitis A (autoimmune).
- hepatitis type B.
- hepatitis type C
- Mixed CG (atrophic pangastrit A – B).

The morphological features:

- Surface.
- Interstitial (with the defeat of glands without atrophy).
- Atrophic
- Atrophic with symptoms of pyloric metaplasia at or intestinal type.
- Atrophic-hyperplastic (mixed).
- Polypoid.
- Hypertrophic, including giant hypertrophic (Menetries disease).
- Erosive.

Localization:

- Limited (antral, fundic).
- Common (diffuse).

Depending on the acid-forming function of the stomach:

- With enhanced and preserved secretion,
- The secretory failure (moderate to severe, including achlorhydria).

By phases:
- Aggravation.
- Remission.

More modern is the international «Sydney» classification.

Table 13 - Sydney classification

Sections	Variants		
Morphological (based on endoscopy),	erythematous (superficial) erosive haemorragic	Atrophic (moderate, severe)	Hyperplastic
Based on histological examination of mucosa	inflammation with erosions, bleeding	Atrophic (moderate, severe)	Violation of cell renewal, epithelial metaplasia
Etiology	associated with gastric HP (type B)	autoimmune (type A)	Reactive (type C)
Topography	antral	fundic	pangastritis
Activity	None	Moderately	Active

In the new classification (modified «the Sydney system», Philadelphia, 1994), no significant changes.

Gastritis (gastroduodenitis) is treated with the etiology, endoscopic and histopathological changes and the severity of the process. Predominant gastritis associated with Helicobacter pylori (HP) (85%), atrophic, usually autoimmune (5%), often manifested B_{12}-deficiency anemia. Allocated gastritis associated with taking drugs, granulomatous, eosinophilic.

Diagnostics

The most common reason of patient's visit to a district physician is a syndrome of gastric dyspepsia.

Syndrome of «gastric dyspepsia»:
- epigastric pain of varying intensity;
- a feeling of heaviness and fullness in the upper abdomen (both usually associated with eating);
- feeling of early saturation, nausea and sometimes vomiting;
- loss of appetite;

− heartburn;
− belching;
− a bitter taste in the mouth.

Patients with *antral gastritis (type B),* associated with HP, concerned fullness and slight epigastric pain. Pain occurs after taking spicy, fried and fatty foods at fast food and better after burping (air, food). In 60% of patients revealed hypersecretion, 30% normal acid production and 10% of hypo-secretion (formation of multifocal gastritis). The disease can also occur without symptoms. Antral gastritis observed in all patients with gastroduodenal ulcers.

Autoimmune gastritis (type A) is caused by genetic factors associated with the HLA B8, DR4. Combined with autoimmune endocrinopathies: autoimmune thyroiditis, hyperthyroidism, type 1 of diabetes mellitus, vitiligo, Addison's disease. In severe cases, deficiency of intrinsic factor leads to B12 deficiency anemia. Usually is latent, is detected in the near relatives. Characteristic expression hypoacid and high level of gastrin in the blood.

Reflux gastritis (type C) causes permanent traumatization of the gastric mucosa by bile reflux throw-in, which is observed after gastrectomy, gastroenterostomy, cholecystectomy, in violation of duodenal patency and failure gatekeeper. Concerned epigastric pain, nausea and sometimes vomiting bile, there is a tendency to lose weight.

Lymphocytic chronic erosive gastritis is characterized by erosions on the mucous membrane of the stomach and marked lymphocytic infiltration of the epithelium.

Examination.

Required Lab tests

Once:

− total blood count;
− total protein and protein fractions;
− histological and cytological examination of biopsy;
− urinalysis;
− fecal test for hiden blood.

Required *instrumental* investigations.

Once:

− esophagogastroduodenoscopy with biopsy and brush histology;

− ultrasound of the liver, biliary tract and pancreas.

Additional research and expert advice.

Implemented according to the main symptoms of the disease and the alleged co-morbidities.

Diagnosis is based on a comprehensive assessment of the clinical picture and the results of laboratory and instrumental studies. Crucial gastroscopy with biopsies of the mucous membrane of the antrum and body of the stomach. The results of the gastroscopy only reflect the location and extent of the pathological process. Biopsy and the study of gastric secretion can finally verified chronic gastritis and its form.

Confirmation of autoimmune gastritis is the detection of antibodies to parietal cells and intrinsic factor.

Table 14 - Normal values for key indicators of gastric secretion

Key indicators of secretion	gastric secretion				
	Hungry	Basal	Successive	Submaximal	Maximal
Juice volume (ml)	till 50	50–100	50–100	100–140	180–220
Total acidity (titr.un.)	till 40	40–60	40–60	80–100	100–120
Free HCL (titr. un.)	till 20	20–40	20–40	65–85	90–110
Total acidity debit-hour/ mekv /debit-hour/mg /	debit-portion to 2,0 to 70	1,5–5,5 (HLW) 55–200	1,5–6,0 60–220	8–14,0 300–500	18–26,0 (MAO) 650-950
Free HCLh / mEq /debit-hour/mg /	debit-portion to 1,0 to 40	1–4,0 40–150	1–4,5 40–160	6,5–12,0 250–450	16–24,0 600–900

Table 15 - Criteria for diagnosing chronic gastritis (CG)

Criteria	CGtype A	CGtype B
Morphological		
The preferential localization	Fundus,body	Antrum

Inflammatory response	Poorly expressed	Expressed
Atrophy	Primary	Secondary
The presence of erosions	Rare	Often
Immunological		
HP	-	+
Antibodies to HP	-	+
Antibodies to parietal cells	+	-
Antibodies to internal factor	+	-
Clinical		
Expressed gastrinemia	+	-
Hypoacidsecretion	Expressed	Any type of secretion
B12-deficiency anemia	+	-
Combination with peptic ulcer disease	Rare	100%
Malignancy	Extremely rare	Often

– Place the existence of chronic gastritis and determine its option under current classification («the Sydney System»), ie, try to find out the etiology, natural features, the activity of the process.

– Find out what other pathogenic processes it goes.

– Clarify, take CG main or accompanying illness.

Medical therapies

Gastritis (gastroduodenitis) associated with HP, with ulcerlike dyspepsia.

Drug treatment is carried out for one of these schemes.

Ten-day schemas:

1. Pilorid (ranitidine bismuth citrate) to 400 mg 2 times a day + clarithromycin (klatsid) 250 mg 2 times a day, or tetracycline 500 mg 2 times a day or amoxicycline 1 g 2 times daily + *metronidazole* (Trichopol) 500 mg 2 times a day.

2. ***Omeprazole*** (zerocid) 20 mg 2 times a day or pantoprazole (kontrolok) 40 mg 2 times a day +

De-Nol 240 mg two times a day or ventrisol 240 mg two times daily + tetracycline 500 mg 2 times a day or amoxicyclin 1 g 2 times a day.

3. ***Famotidine*** Quamatel, famocid) 20 mg 2 times daily or

ranitidine 150 mg 2 times a day + *De-Nol* 240 mg two times a day or ventrisol 240 mg two times daily + *tetracycline* 500 mg 2 times a day or amoxicyclin 1 g 2 times a day. Instead of de-ethanol can be assigned *vikalin (Vikair)* 2 tablets 4 times a day.

Fourteen-day scheme.

Ranitidine 150 mg 2 times a day, or famotidine (Quamatel) 20 mg 2 times a day, or omeprazole 20 mg 2 times a day, or pantoprazole (kontrolok) 40 mg 2 times a day + tetracycline 250 mg 4 times a day with meals.

Autoimmune (atrophic) gastritis with megaloblastic anemia, a bone marrow examination confirmed.

Drug treatment includes vitamin B_{12} (or cyanocobalamin) 1000 mg intramuscularly for 6 days, then – in the same dose 1 day a week for a month, and in the subsequent long-term (life) 1 every 2 months. You can assign replacement therapy achlorhydria, enzyme preparations and preparations of nicotinic acid,

Other forms of gastritis (gastroduodenitis).

Symptomatic treatment with the following drug combinations:

in non-ulcer dyspepsia– gastrocepin to 25 – 50 mg 2 times a day + Maalox (Gastal, Aluminium phosphalugel, remagel, gelusil, daydzhin, etc.), 2 tablets or 15 ml (sachet) 3 times a day 1 hour after eating;

in case of hypomotoric dyspepsia– domperidone (Motilium), or cisapride (koordinax) 10 mg 3–4 times before meals + Maalox (or other antacids) to 2 tablets or 15 ml (sachet) three times a day an hour after I eat.

Indications for hospitalization:

Indications for planned hospitalization:

- expressed worsening;
- a severe form of the disease;
- uneffective outpatient treatment;
- the need for hospital examination to differential diagnosis;
- the need for surgical treatment.

Indications for emergency admissions:

- bleeding.

Length of hospitalization is 10 days. But it may be reduced considering the etiology and severity of morphological manifestations

of the disease. Most treatment is done on an outpatient basis with the patient (rational diet and lifestyle). Chronic H. pylori gastritis is now considered a reversible process.

A possible approach for the management of CG type B associated with HP

With low HP dissemination and the absence of clinical symptoms in the medical treatment is not necessary.

In moderate to significant colonization and no clinic shows the assignment of bismuth salts (De-Nol, bismuth nitrate).

Significant colonization, antral gastritis with presence of erosions or without according fibrogastroduodenoscopy and moderate or severe clinical picture – the «triple therapy», antibiotics (tetracycline or ampiox) + metronidazole + ranitidine or omeprazole.

Moderate or severe colonization of the gastric mucosa with HP spread the inflammatory process in the whole stomach moderate or severe atrophy with decreased secretory function, the presence of moderate to severe clinical symptoms, «triple therapy» – antibiotics metronidozol + + De-Nol and bismuth nitrate.

CG associated with HP (antral), combined with duodenal ulcer and the presence of clinical symptoms – the «triple therapy» – antibiotics + metronidazole + ranitidine or omeprazole.

Requirements to the results of treatment:

− No symptoms, endoscopic and histological evidence of active inflammation and infectious agent (complete remission).

− Cessation of pain and dyspeptic disorders reduced histological evidence of inflammatory process.

Dispanserization.

Patients with active gastritis (gastroduodenitis) associated with autoimmune gastritis and HP should be under dispanserization. Inspection therapist 1–3 times a year, a gastroenterologist for an indication, gastroduodenoscopy – indicated.

It should be remembered that after HP eradication is complete regression of gastritis, its activity and inflammation. Atrophy theoretically reversible, but its reverse development observed in a small number of patients.

Chronic gastritis with prevalence disregeneratornyh processes, including epithelial metaplasia, can be considered as a precancerous

condition. Manifestation of high alert to cancer should be considered as the presence of mucosal atrophy with signs of impaired epithelial regeneration and, as a consequence, a significant reduction in the secretory function of the stomach. Such patients should be performed with biopsy fibrogastroduodenoscopy 2 times a year.

Criteria for temporary disability.

A marked worsening of the disease with intense pain and dyspeptic symptoms, the presence of erosive changes in the mucous membrane of the stomach, complications, need for surgery (special forms of CG).

Tentative dates of temporary disability:

- In mild exacerbation of hepatitis – Patients are able to work;
- Exacerbation CG average weight – 6–7 days;
- During the second (heavy) exacerbation CG – 12–14 days (inpatient treatment);
- Exacerbation of erosive CG – 12–17 days (inpatient treatment).

Period of temporary disability in special forms of CG, the development of complications are determined by their character (anemia, bleeding), type of treatment (conservative and surgical), its efficacy. Longer temporary disability is possible with concomitant diseases and conditions (hypothyroidism, respiratory and heart failure, etc.), and adverse working conditions.

Contraindicated conditions for CG with frequent and severe exacerbations, severe, often relapsing erosive, atrophic diffuse, special forms of CG:

- work involving regular or occasional considerable physical and mental stress, body shaking, exposure to toxins and gastrotropnyh allergenic substances (pairs of acids and alkalis, chemicals), chemical carcinogens (polycyclic aromatic hydrocarbons, etc.);
- work involving frequent business trips and irregular working hours, failure to perform diet.

Invalidity

CG is rarely the main cause of disability.

Rehabilitation for patients include:

- a balanced diet;
- alcohol abuse and smoking;

− treatment of selected individually depending on the nature of based on the type of disease, activity and severity xx;

− identification and treatment of opportunistic diseases;

− rehabilitation of the oral cavity;

− sanatorium treatment;

− phytotherapy

Peptic ulcer and 12 duodenal ulcer.

Peptic ulcer (PU), as defined by WHO– total chronic relapsing disease, prone to progression, with polycyclic course, characteristic features of which are seasonal exacerbation. accompanied by the appearance of the ulcer in the lining of the stomach or duodenum and the development of complications that threaten the patient's life. PU is a feature of the current involvement in the pathological process of other digestive tract.

Etiology.

In the etiology of ulcer are important genetic predisposition (HLA antigens B5, B14, B15, increasing the number of parietal cells over-producing hydrochloric acid, with a deficit of alpha-2 macroglobulin and alpha-l-antitrypsin fukoglikoproteidov in gastric mucus, which protects the mucosa from damaging action of proteolytic enzymes), neuro-emotional factors, impaired motor-evacuation function of the stomach and duodenum 12, persistence helicobacter piloris in the mucosa, and the systematic violation of the food, bad habits (smoking, alcohol), adverse effects of certain drugs (a group of non-steroidal anti-inflammatory drugs, glucocorticoid hormones, etc.).

The task of local therapist in the initial survey of the patient with the syndrome of gastric dyspepsia and epigastric pain is early detection (or exclusion) of peptic ulcer and for this purpose shall be held:

a) a focused and detailed questioning of patient complaints,

b) Identification of risk factors for peptic ulcer disease, including the evaluation of the "family" of history,

c) a clinical examination of the patient, first of all, to avoid the possibility of surgical pathology

g) Provide the patient (if necessary) emergency medical care,

d) deciding on the terms and conditions (clinic or hospital) dalneyschego survey (primarily fibrogastroduodenoscopy for an

objective assessment of gastric and 12 duodenal ulcer, biopsy and HP detection and treatment of the patient,

e) Evaluation of patient disability,

g) the choice of optimal treatment and preventive treatment.

Classification of peptic ulcer (P.Y. Grigoriev, M.Boger 1986)

Localization of ulcer:

1. Stomac.
2. Duodenum.
3. Stomach and duodenum simultaneously.

Phase of peptic ulcer:

1. Aggravation.
2. Incomplete remission.
3. Remission.

Morfologic substrate of the disease:

1. Acute ulcer.
2. Active ulcer.
3. Ulcer scar (scar red phase, the phase of the white scar).
4. Chronic ulcer.
5. Postyazvennaya strain postyazvenny scar.
6. Gastritis, indicating the location and morphological variant.
7. Duodenitis with showing of morfological option.
8. Duodenogastric reflux.
9. Gastroesophageal reflux, esophagitis.

Peptic ulcer course:

1. Latent.
2. Lung.
3. Moderate severity.
4. Heavy.

Complication:

1. Bleeding
2. Perforation
3. Penetration
4. Perivisceritis (adhesive peritonitis)
5. Pyloric stenosis.
6. Malignancy
7. Reactive hepatitis.
8. Reactive pancreatitis.

E.S. Ryss offers ***classification***, convenient in practical application.

The main characteristic

1. Localization ulcer: in the stomach, the duodenum, the combined location, in other departments of gastrointestinal tract.

2. By forms: a) acute (fresh), b) chronic (recurrent or persistent).

3. By phase currents: worsening, exacerbation subsides (subremission), remission.

4. On complications: bleeding, perforation, penetration, scar deformity of the stomach and duodenal ulcers, gastroduodenal stenosis, malignant degeneration (malignancy).

Optional feature

1. More precise information on the clinical course: light, moderate and heavy.

2. Refined localization of ulcers: – in the stomach cardiac, subkardialnom, fundic (mediogastralnyh) prepilorichеskaya (antrum) and the pyloric channel, in the duodenum: onion, vnelukovichnaya postbulbarnaya – Combined gastric and duodenal ulcers.

3. Information on the nature of gastric secretion (normal, increased, decreased).

Clinic.

The classical clinical picture consists of ulcer pain, dyspeptic (belching, heartburn, loss of appetite or a heightened sense of hunger, nausea, vomiting, etc.) and asthenic-vegetative syndrome (fatigue, weakness, sweating, irritability, sleep disturbances). We consider it useful to clinical features, depending on the location of the ulcer.

Cardiac and subcardial ulcers– are located at the very esophago¬gastric passage or not more than 5–6 cm distal to it, mostly occur in men older than 45 years, accompanied by pain early after 15–20 minutes after eating, are located high in the epigastrium, often radiating to the precordium, and therefore require a differential diagnosis of coronary artery disease, left-sided pleurisy, often combined with hernia esophageal orifice and reflux esophagitis and in half the cases (according to the VH Vasilenko) lead to bleeding.

Ulcers of the lesser curvature of the stomach– appears quite intense pain, bowl 1–1,5 hours after a meal, have a variety of dyspeptic effect against stored gastric secretion.

The greater curvature of the stomach ulcers– are rare, different clinical erased each time should be treated as suspicious malignant – primary or secondary form of cancer of the stomach ulcer (Ryss E.S).

Antral ulcers– «prepyloric» – a favorite site of primary gastric cancers of the stomach, especially in elderly persons aged, clinically manifested as duodenum, although usually accompanied by a less pronounced hyperaciditas, confirming pattern ***«regarding gastric secretion decreases as you get closer to the cardia ulcers».***

Pyloric channel ulcers– proceed with intense late, «hungry» or nocturnal pain in the right side of the epigastric region, radiating to the back or in the upper section of the back, appear repeatedly vomiting acidic liquid mass disorders accompanied by evacuation Livestock chyme from the stomach due to pyloric spasm and expressed inflammation of the gastric mucosa, tend to the long course of the formation of pyloric stenosis, as well as penetration, perforation and massive bleeding.

Postbulbar ulcers– are according Vasilenko V.H. no more than 5–7% of all gastroduodenal events located in the upper curve in the initial segment of the descending part of the duodenum 12, usually men. characterized by the intensity of pain, radiating mostly under the right shoulder blade or interscapulum, simulating cholecystitis, pancreatitis, znterokolit; characteristic sign postbulbarnyh ulcer is an acute and recurrent gastro intestinal bleeding, manifested by chalking, increasing weakness, sweating, dizziness, nausea and other symptoms of acute hemorrhagic anemia.

Combined gastric and duodenal ulcers– is found in 5–10% of patients with duodenal ulcers usually develop first, the simultaneous development occurs or there is a change in the localization of another escalation, appear almost continuously without clear localization with clinical signs of gastric stasis, characterized by severe, require surgery with persistently recurrent ulcer scars on the basis of duodenal stenosis, even compensated form.

Giant gastric and duodenal ulcers– over 2 (other sources – from 3 to 5) cm in diameter, is about 5% of the total number of ulcers, occur mainly in elderly and senile patients in relation to the severity of venous disorders are more likely to small curvature, require that histological and oncological alertness, prone to massive bleeding,

penetration and perforation, prompting surgeons to surgery.

Nota bene! Ulcers prepilorichеskoy of the clinical course similar to the duodenal, but should cause apprehension over a possible malignancy.

Standard examination of patients with peptic ulcer:

- The dynamics of body weight,
- Common blood, reticulocytes (In the event of repeat study 1 every 10 days) and urine,
- Blood type, Rh factor once,
- Blood sugar, serum iron,
- Coprocystogramma,
- Fecal hidden blood,
- Fibrogastroduodenoscopy (with biopsy and research on Helicobacter pylory – histology, cytology, urease test),
- X-rays of the stomach and duodenum (mainly for the evaluation of motor-evakuatory function),
- Study of gastric secretion (histamine or pentagastrin) and (or) – pH-metry,
- Ultrasound of the liver, biliary and pancreatic pugey.

Additional studies are conducted for suspected malignant degeneration (atypical cells), complications and co-morbidities.

Crucial to the diagnosis is endoscopic revealing of ulcer. But it is necessary to evaluate the totality of the clinical symptoms, as ulcer defect of gastrointestinal tract mucosa may be one of developing of severe pathology of internal organs.

Medical therapies.

District physician must give the patient detailed advice on diet and dietary characteristics (characteristics of diet, cooking, calorie), which is especially important in an aggravation of the process.

Bed rest is appropriate to comply with an exacerbation of the disease in the future – adherence to adequate physical activity, rational psychotherapy.

Important is the removal of harmful factors – not smoking, alcohol, drugs cancellation, damaging the mucous membrane of the stomach.

Drug therapy depends on the phase of the process (worsening, remission), the nature of the disease, presence of complications and

comorbidities, aims not only to rapid healing of the ulcer, but most importantly, to prevent the recurrence of the disease and prevent complications.

The main groups of drugs for the treatment of ulcer:

1. *Means suppressing H. pylori infection* (de-nol, metronidazole, furazolidone, oxacillin, clarithromycin and other antibiotics).

2. *Antisecretory agents:*

- M-selective anticholinergics (gastrocepin, pirencepin).
- Blockers H2 histamine receptor (cimetidine, ranitidine – Zantac. Raniberl, ranisan, famotidine – kvamatel, ulfamid; roksatidin, nizatidine).
- Blockers of H +, K + ATPase (proton pump) – omeprazole, lansoprazole, pantoprazole, rabeprazole, esomeprazole.

3. *Antacids* (almagel, Aluminium phosphate gel. Maalox, megalak).

4. *Gastrocytoprotektors:*

- Stimulating mucosa formation (carbenoxolone, enprostil, Cytotec.).
- Form a protective film (sucralfate – Venter, alsukral, colloidal bismuth – De-Nol, smectite – smectite dioktagidral).
- Enveloping and astringents (bismuth preparations).

5. *Drugs normalizing the motor function of the stomach and duodenum* (Reglan, metoclopramide, domperidone, cisapride, eglonil, sulpiride), antispasmodics (no-spa, papaverine, Duspatalin).

6. *Reparants* (Solcoseryl, sea buckthorn oil, gastrofarm).

According to the modern concept of treatment of infection with Helicobacter pylori infection (the Maastricht 3–2006 consensus, Rome), was isolated in absolute and relative indications for therapy of H. pylori.

Absolute indications include:

- Duodenal ulcer or gastric ulcer (active or inactive, including peptic ulcer disease);
- Maltoma-stomach;
- Atrophic gastritis;
- State after gastrectomy for gastric cancer;
- Patients-relative of the first line with gastric cancer;
- Patient wish (after thorough consultation with the doctor).

Relative indications include:

- Functional dyspepsia;
- Gastroesophageal reflux disease;
- Treatment with nonsteroidal anti-inflammatory drugs.

The following drug combinations and schemes for eradication of HP:

Seven-day schema:

1) *omeprazole* (zerocid, omizak) at 20 mg two times a day (morning and evening, every 12 h) or pantoprozol (kontrolok) 40 mg 2 times a day + *clarithromycin (klacid)* at 250 mg 2 times a day + *amoxicillin (flemoksin-Solutab, ospamox, hikoncil)* 1000 mg 2 times a day;

2) *omeprazole* (zerocid, omizak) at 20 mg two times a day (and night ugrom every 12 h) or pantoprozol (kontrolok) 40 mg 2 times a day + *amoxicillin* (hikoncil) or ampicillin and 1 g 2 times a day at the end of a meal + *metronidazole* (Trichopol) 500 mg 2 times a day at the end of a meal;

3) *pilorid* (ranitidine) 400 mg to 2 times a day after meals + *clarithromycin* (klacid) 250-500 mg or 500 mg of tetracycline or amoxicillin 1 g 2 times daily + *metronidazole* (Trichopol) 500 mg 2 times a day at the end of a meal;

4) *omeprazole* (zerocid, omizak) 20 mg 2 times a day (morning and evening, every 12 h) or pantoprozol (kontrolok) 40 mg 2 times a day + *colloidal bismuth subcitrate* (ventrisol, De-Nol), 120 mg + *metronidazole* or tinidazole 500 mg 2 times a day after meals + *tetracycline* or amoxicillin 500 mg 4 times a day.

Ten-day schema:

1) *ranitidin* (Zantac), 300 mg two times daily or famotidine (kvamatel) 40 mg 2 times a day at intervals of 12 h + *bismuth drug* (De-Nol, ventrisol 120 mg 3 times a day for 30 minutes before food and for the 4th time at night) + *metronidazole* 250 mg four times a day after meals + *tetracycline* 250 mg 4 pa cr a day after meals. Eradication rate reaches 90%.

After the end of the combined eradication therapy on treatment for 5 weeks with duodenal and 7 weeks for gastric ulcer location using one of the following drugs ranitinin (Zantac) – 300 mg before bedtime, famotidine (kvamatel) – 40 mg at bedtime, 400 mg pilorid

morning and evening.

For the prevention of relapse of gastric ulcers and duodenal ulcers especially recommended two types of antiHP-treatment:

1) continuous (lasting months and even years) antisecretory maintenance therapy means a daily dose in half, for example, every evening ranitidine 150 mg or 20 mg or 40 mg kvamatel, pantoprozol (kontrolok).

Indications for this program:

– Inefficient eradication therapy;

– Complications of PCOS (ulcer bleeding or perforation in history);

– comorbidities, requiring the use of non-steroidal anti-inflammatory drugs;

– Accompany erosive or ulcerative esophagitis;

– Annually recurrent peptic ulcers, despite adequate therapy coursework.

2) Preventive therapy «on demand», which provides the appearance of characteristic symptoms of acute peptic ulcers, receiving one of antisecretory drugs (ranitidine, famotidine, kvamatel, omeprazole, kontrolok) in total daily dose for 2–3 days, and then in half – in for 2 weeks. If after such a course of exacerbation symptoms disappear completely, treatment can be stopped, but if symptoms persist or recur, it is necessary to conduct fibrogastroduodenoscopy and other surveys. This variant of anti-treatment may be applied only attentive and disciplined patients who are adequately assessed and promptly react to changes in health.

For the treatment of gastroduodenal ulcers not associated with HP (negative morphological and urease tests of biopsies pritselnyx antrum and body of the stomach, use one of the following combinations and schemes:

1) *ranitidine*– 300 mg once a day preferably in the evening and antacid (Maalox, remagel, Aluminium phosphate gel) as a symptomatic treatment;

2) *famotidine* (kvamatel, famotsid) – 40 mg once a day preferably in the evening and antacid (Maalox, remagel, Aluminium phosphate gel) as a symptomatic treatment;

3) *sucralfate* (Venter, sukrat gel) – 4 grams per day (1 g for 30

minutes before eating and 4th reception at night after 2 hours after a meal) for 4 weeks, then 2 grams per day for 8 weeks.

As additional drugs should be aware of antacids (almagel, Aluminium phosphate gel, Maalox, Gustav, gelusil), prokinetic agents (metoclopramide, domperidone, cisapride), gastroprotective drugs (sucralfate, colloidal bismuth), herbal medicine (flax seed, psyllium, mint and lemon etc.). Physiotherapy treatment is provided in the absence of contraindications.

Dispanserization of patients with GU and DU is carried by district physician and includes:

1) regular (at least twice a year, especially in spring and fall), medical supervision and physical examination of patients with ulcerative DPJ assess the dynamics of the process, to identify complications and comorbidities (total blood count, urinalysis, general, koprocytogramma, fecal occult blood test, study of gastric secretion, fibrogastroduodenoscopy, ultrasound of the abdomen);

2) assessment of the patient's ability to work, in the presence of occupational hazards – timely consultation at MAC, in determining disability criteria – advice and referrals on MREC;

3) active individualized rehabilitation treatment-recreational activities;

a) the different options preventive treatment;

b) a sanatorium treatment.

Criteria for temporary disability in case of peptic ulcer:

a) initially identified ulcer;

b) the signs of acute peptic ulcer disease or its complications;

c) the need for surgical treatment.

Treatment in outpatient settings, particularly in the outpatient clinic, subject to:

- Patients with moderate and severe, but not resistant pain,
- Patients with uncomplicated peptic ulcer disease,
- Patients with the absence of severe comorbidity.

Criteria for hospitalisation in case of peptic ulcer

1) *Emergency admission:*

- Acute complications peptic ulcer
- Patients with ulcers of different sizes with the threat of bleeding – the presence of thrombosed vessels and (or) dark-colored

plaque on the bottom of the ulcer.

2) *Planned admission:*

− First observed ulcer any location (within 2 weeks of the appearance of complaints)

− Stomach ulcer,

− Combining gastric and duodenal ulcer,

− Large ulcer,

− Severe illness

− The lack of effect of the therapy on an outpatient basis,

− Suspicion for malignancy ulcers

− Aggravation against related diseases, aggravating for PU (lung, heart failure, severe hypertension, diabetes mellitus, receiving steroid therapy)

− Exacerbation of the elderly, debilitated patients somatically,

− The presence of the relative indications for surgical treatment (failure of medical treatment, repeated bleeding, kallez ulcer, recurrent ulcer after suturing perforated ulcer, etc.),

− Decision expert questions.

The criteria for evaluation of patients with ulcer disability are:

− Phase of the process (exacerbation or remission);

− The severity and course of acute illness;

− Characteristic ulcers (location, size, stage) and functional-morphological status of the gastroduodenal system;

− Develop complications;

− The effectiveness of previous treatment;

− Co-morbidities;

− Social factors (occupation, nature and conditions of work);

− Psychological characteristics (installation work).

Direction to MREC

When the direction of the patient on the messenger list MREC briefly indicate the most important information from the «ulcer» the patient's history, needs in outpatient and inpatient care, the amount of the treatment and its results, the effectiveness of preventive treatment. Of additional research methods submission:

− Fibrogastroduodenoscopy with biopsy results (in case of inability to fulfill fibrogastroduodenoscopy-X-ray examination),

− Study of gastric secretion (using histamine or pentagastrin),

pH meters,

− Height, weight of the patient in the dynamics,

− total blood count (dynamic indicators for anemia), urinalysis, fecal occult blood, koprotsitogramma,

− Biochemical serum (glucose, total protein, transaminase, cholesterol, lipoproteins, electrolytes, urea, amylase, alkaline phosphatase),

− Ultrasound of the abdomen,

− The conclusion of a gastroenterologist, surgeon, oncologist (if necessary).

Surgical consultation routinely performed for the diagnosis of stenosis pyloric ulcer and duodenal ulcer, and the ineffectiveness of 3–4 courses of complex conservative treatment of deep callous ulcers, continuous-recurrent course.

Ulcer of the stomach and a duodenum has the following diagnostic indications for Sanatorium Treatment:

PU in remission, partial remission or exacerbation if no motor impairment of the stomach, bleeding tendency, penetration and a suspicion of the possibility of malignant transformation – recommended local motels and resorts with drinking mineral water and mud.

Operated stomach illness at the PU with dumping syndrome and hypoglycemic syndrome, mild to moderate – to show local motels, but not earlier than 1 month after surgery, and for sanatorium treatment no earlier than 2 months with unproven scar and a satisfactory general condition (resorts with drinking mineral water and mud).

The main resorts for the treatment of drinking mineral water and mud: Hankavan Arzni Berezivski Min. Water Borjomi, Jermuk, Druskininkai, Essentuki, Zheleznovodsk, Kemeri Krainka, Nalchik, Naroch, Odessa, Parnu, Pyatigorsk, Truskavets, Shmakovka, Jurmala, Theodosia. On the territory of Belarus specialized sanatoriums for rehabilitation of patients with diseases of the gastrointestinal tract located in Grodno – Sanatorium «Porech'e», in Minsk region – «Pine Forest», «Krynica», «Belarus», in the Vitebsk region – «Lepel military resort» , Brest – «Yaselda».

Contraindications to the sanatorium treatment:

− gastric abd duodenal ulcers in the acute phase,

− complicated subcompensated pilorostenosis, re-bleeding was noted in the last 8-10 months,

− Penetrating ulcer

− Complications after gastric surgery/non-healing postoperative scar, fistula, afferent loop syndrome, dumping syndrome, severe hypoglycemic syndrome, atony of the gastric stump.

Single profuse bleeding after one year is not a contraindication to the sanatorium treatment.

LESSON № 7. Chronic cholecystitis, biliary functional disorders, chronic pancreatitis. Outpatient aspects of diagnosis and treatment, medical tactics, examination of temporary disability, dispanserization, primary prevention. Emergency care in hepatic colic.

Chronic cholecystitis (ICD-10 -K81) - polietiological inflammation of the gallbladder.

More common in women. May be due to acute cholecystitis, but usually develops gradually as a primary chronic disease. Chronic inflammation of cholecystitis often represents the initial stage of calculous cholecystitis.

Plays a leading role infection that enters the gallbladder from other organs. Infection often occurs by ascending bile from the intestine. This contributes to a loss or reduction of the Oddi's sphincter tonus. Other predisposing factors are diet, family history, overweight, diabetes mellitus, lack of move, stress.

Classification:

• chronic inflammatory cholecystitis

• calculous cholecystitis.

Severity:

• lightweight (exacerbation 1-2 times a year);

• moderate severity (aggravation 5-6 times a year);

• severe (exacerbation 1-2 times a month).

Stage of disease:

• aggravation;

• remission.

By the nature of the flow :

• latent;

• relapsing.

For complications:

• uncomplicated;

• complicated.

The clinical picture of chronic cholecystitis manifestation depends on the severity of the inflammatory process in the gallbladder. During an exacerbation common symptom is pain in the right upper quadrant, sometimes prradiruyuschaya in the right shoulder blade. Pain worse after taking spicy fatty food, exercise. Sometimes there is an increase in body temperature. Abdominal palpation, tenderness at the point of projection of the gallbladder. Pain occurs at the surface and deep palpation (symptom Murphy) palpation, new or worsening pain in percussion on costal arch (symptom - Ortner Grekov). In some cases, pain in the right upper quadrant accompanied by irradiation to the heart that can cause typical angina, called cholecystokardial syndrome, first described by S.P. Botkin, which requires an assessment of ECG in dynamics. Characteristic symptoms of chronic cholecystitis is bitterness in the mouth, loss of appetite, heartburn, vomiting may occur and other diarrheal symptoms.

Diagnosis of chronic cholecystitis is based on a comprehensive examination of the patient.

In the clinical history of blood in acute noted leukocytosis, eozinophylia, increased erythrocyte sedimentation rate. Biochemical study reveals increased ALT, AST and GGT, bilirubin, acute-phase proteins presence. Definite value in the diagnosis of a fractional sensing and study of bile. In bile revealed a large number of flakes of mucus, columnar epithelium. Biochemical study of bile to determine

disruption of normal relations ingredients bile characteristic pracalculous states (reduction of bilirubin and cholic acid). Bacteriological study of bile allows you to set the bacterial flora and its sensitivity to antibiotics. Confirming the diagnosis of chronic cholecystitis is ultrasound, in which there are thickened gallbladder wall with irregular contours, with different contents of inhomogeneous inclusions.

The differential diagnosis is performed with functional disorders of the biliary tract, peptic ulcer disease, bowel disease, gallbladder cancer.

Plan of patient examination

1. Laboratory Methods

a) total blood count;

b) blood chemistry: bilirubin and its fractions, ALT, AST, GGT, glucose, amylase;

c) urinalysis;

d) coprogram, coproovocystoscopy, Lamblia Giardia cysts test.

2. Instrumental methods:

a) ultrasound of hepatobiliar region;

b) endoscopy;

c) X-ray examination (oral cholecystography intravenous cholecystocholangiography).

3. Consultation of gastroenterologist, surgeon, gynecologist.

If the patient cholecystitis complications such as jaundice, empyema, perforation of the gallbladder is necessary to consult a surgeon, as patients in need of immediate hospitalization in the surgical department of the hospital.

Treatment of chronic cholecystitis, usually is an outpatient stage. Leading therapeutic measure is diet therapy, which aims to ensure the normal excretion of bile. Food should be chemically and mechanically gentle, welcome to frequent, 4-6 times a day, with the

inclusion of cereals, vegetable soups, cooked meat and fish, vegetables and sweet fruits.

Treat acute attack with M-cholinolitics (0.1 % solution of atropine sulphate 1 mL, 0.2 % solution for platifiline 1.2 ml, 2 % solution of buskolan subcutaneously 1 ml), myotropic spazmolitics (2% solution of papaverine hydrochloride 2 -4 ml, 2 % solution- shpy 2-4 ml) .

Pronounced antispasmodic and choleretic action has mebeverin hydrochloride (Duspatalin), 2 times a day for 30 minutes before eating. Widely used drugs in mixed allohol, holosas, holenzim, festal, digestal and sedatives .

In cases when the inflammatory process in the gallbladder basis of medical treatment is antibiotic therapy. Are the most effective drugs of fluoroquinolones norfloxacin 0.4 2 times a day, levofloxacin 0.5 2 times a day, ciprofloxacin, 0.5 , 2 times a day, macrolides: azithromycin 0.5 1 times a day, clarithromycin 0.5 2 times a day. Semisynthetic penicillins, ampicillin, oksacillin less effective, so it's best to use a secure form of ampicillin (Augmentin, amoxiclav).

Medical and social examination. The average duration of disability in exacerbation of the disease is 10-14 days.

Dispanserization. Patients with chronic cholecystitis are registered with a district physician. Multiplicity of observations depends on the severity of the disease. Mild 1 times per year, with frequent exacerbations 2-3 times a year. Conducted clinical and biochemical studies, ultrasound of the liver and biliary tract 1 per year EGD 1 every 2 years.

Prevention. Primary prevention involves a healthy lifestyle, good nutrition, sufficient physical activity, smoking cessation and alcohol abuse, strengthening the nervous system and avoiding stressful situations. An important condition for the prevention of chronic cholecystitis is sanitation foci of infection.

Secondary prevention is carried out implementation of measures to clinical examination of patients.

Dysfunction of the gallbladder and sphincter of Oddi (ICD-10 -K83) - is inconsistent, inadequate or excessive contraction of the gallbladder and Oddi's sphincter, and manifest violation of the outflow of bile from the gallbladder and common bile duct into the duodenum.

According to the Rome criteria III (2006) Functional disorders are divided into three types:

• functional disorder of the gallbladder ;

• functional biliary sphincter of Oddi disorder ;

• functional pancreatic sphincter of Oddi disorder .

Dysfunction of the biliary tract is divided :

• etiology :

• primary ;

• secondary .

• functional state :

• hypertension (gipermotornaya);

• hypotension (gipomotornaya) .

Primary dysfunction develops due to disorder neurohumoral regulatory mechanisms. Secondary - as a result of liver, intestine, pancreas, systemic diseases, as well as in hormone disorders. Most suffer women aged 20-40 years.

Clinic. Hyperkinetic form gall bladder dysfunction manifested acute colic-like pain in the right upper quadrant, radiating to the right shoulder, sometimes in the left half of the thorax.

Pain occurs after errors in diet, physical activity, mental and emotional stress. During an attack of pain may be nausea, vomiting, headache, sweating. Pain syndrome is caused by increased pressure in the gallbladder, which is reduced when hypertension occurred Oddi's sphyncter. On palpation may experience soreness in the projection of the gallbladder. Changes in clinical and biochemical blood tests

available. Ultrasound study determined size reduction and accelerated gallbladder emptying.

Hypokinetic function of the gallbladder causes pain in the right upper quadrant without a clear irradiation. There may be a feeling of heaviness and fullness in the right upper quadrant. Patients complain of loss of appetite, bitter taste in the mouth, bloating, nausea, belching. Palpation revealed a small pain in the projection of the gallbladder. Development of hypokinetic gall bladder dysfunction associated with decreased formation of cholecystokinin in wall of duodenub that slows the motor function of the gallbladder. Gallbladder ultrasonography increased, pear-shaped, slowly and poorly drained. Changes in clinical and biochemical blood tests not detected.

Oddi's sphincter dysfunction - functional impairment of its contractile power, preventing the normal flow of bile and pancreatic secretions into the duodenum.Observed after cholecystectomy, recurrent idiopathic pancreatitis, very rarely in patients with biliary tract intact. Develops spasm, less muscle dilatation of Oddi's sphincter or its components - sphincters gall and pancreatic ducts, and disrupted the flow of bile pancreatic secretion in duodenum, increases the pressure in the bile duct or pancreatic duct. Depending on the violation of an outflow of isolated biliary, pancreatic and mixed violation of Oddi's sphynkter. The clinical picture depends on the place of infringement of outflow of bile and pancreatic secretions. When biliary dysfunction pain similar pain in gall bladder dysfunction. When pancreatic - pain in the left upper quadrant radiating to the back. When mixed variant of the pain is localized in the epigastrium and left upper quadrant, is the nature of shingles.

The differential diagnosis is carried out with cholecystitis, pancreatitis , peptic and duodenal ulcers, myocardial infarction.

Treatment an outpatient basis. The goal of treatment is to restore normal bile flow and pancreatic secretion. Important role in this is played by diet therapy. When hyperfunction recommended split

meals with the exception of products that cause contraction of the gallbladder (fat, meat and fish products, alcohol). When hypofunction recommended diet with enough cholagogue substances (black rye bread, weak broth, vegetables, fruits). Drug therapy is performed differently according to the biliary tract function. When hyperfunction gallbladder and Oddi's sphynkter appointed myotropic antispasmodic drugs mebeverine hydrochloride (0.2 g, 2 times a day before meals), Odeston (0.2-0.4 g for 30 minutes before a meal), and 0.0005 g of nitroglycerin under the tongue), which quickly relieves spasm of the Oddy's sphincter and is indicated for patients with concomitant cardiovascular disease. For pain relief used a combination of drugs baralgin, spazgan etc. When disfunction pancreatic sphincter of Oddi for each type of food at E appointed enzyme preparations - Creon, pancreatin, mezim forte.When hypofunction appointed cholagogue preparations - hofitol, holosas, solutions of xylitol, sorbitol, olive oil, teas, yarrow, parsley.Shows the assignment of sedative and tranquilizing drugs, rational psychotherapy and physiotherapy treatments. Treatment was carried out for 2-4 weeks.

Effective treatment of hypo-and atopic dyskinesia is tubeless sensing – gall bladder flash. Recommended the use of methods of physiotherapy and exercise therapy.

Employability patients with dysfunction of the biliary tract usually is not broken. The prognosis is favorable.

Dyskinesia in patients with noncalculous cholecystitis is indicated sanatorium treatment no less than 2 months after the exacerbation. Such patients are shown balneomud resorts "Naroch", "Krynica", "Druskininkai", "Essentuki", "Truskavets" etc.

Prevention of diseases of the hepatobiliary system.

Primary prevention is aimed at compliance with the principles of a healthy lifestyle, prevention of alcohol intake and exposure to hepatotoxic substances. Important is the definition of asymptomatic

carriers of hepatitis B virus in health workers and persons in contact with patients with viral hepatitis, immunizations against hepatitis B.

Secondary prevention aims to achieve long-term remission of the disease, the struggle with relapses and complications. Important work and rest, diet, abstinence from alcohol.

Hepatic colic.

Colic can be caused by cholelithiasis, which for a long time may be asymptomatic. Pain occur most often after errors in diet during exercise, psycho-emotional stress, bumpy ride. The pains are intense constant cutting, stitching, tearing character. The cause of the pain attack is a denial of the stone in the neck of the gallbladder or common bile duct. Pain localized in the right upper quadrant and epigastric region (due to irradiation in celiac plexus), give to the lumbar region right shoulder, right shoulder girdle (irritation of the right phrenic nerve branches), rarely occurs irradiation of pain in the heart area, simulating angina (cholecysto-cardiac syndrome). Frequent attacks of biliary colic accompanied by nausea and repeated vomiting with bile, not bringing relief to the patient. Duration of colic from several minutes to several hours.Patients with restless, frequently change posture, trying to find a comfortable position, which reduces the intensity of pain. Body temperature during the attack remains normal, there is a moderate tachycardia up to 100 per minute. Language moist, coated with a whitish bloom. On examination, attention is drawn to some bloating, the right half of the abdominal wall behind in the act of breathing. On palpation of the abdomen there is a sharp pain in the right upper quadrant, especially in the projection of the gallbladder. Protective muscle tension is absent or expressed slightly positive symptoms Ortner - Grekova (effleurage sharp pain on the right costal arch), Musso - St. George (pain with pressure between the legs of sternocleidomastoid muscle). No symptoms of peritoneal irritation. In blood analysis leukocyte count is normal or slightly elevated.

Emergency aid during the attack includes antispastic and analgesic: subcutaneously 1 ml of 0.1 % solution of atropine sulfate, 2 ml of a 2 % solution of papaverine hydrochloride, 2 ml of 2% solution shpy, intramuscular or intravenous aminophylline solution, intramuscularly 2 ml of 50 % dipyrone solution, nitroglycerin inside. In severe cases, the injected 1 ml of 1 % solution of morphine in combination with gndrohlorida atropine to reduce the effect of morphine on the Oddy's sphincter. Patients with hepatic colic should be hospitalized in the surgical department to be monitoring by the surgeon and determine the indications for operative treatment.

Chronic pancreatitis (ICD-10 -K86) - progressive inflammatory-dystrophic lesions of the pancreas, which leads to the progression of fibrosis and organ failure of it's exo- and endocrine function.

Chronic pancreatitis prevalence, increased morbidity, incapacity and disability is an important socio- economic problem. In the structure of the gastrointestinal tract it is 5-9 %. Over the past 30 years there has been a global trend to increased incidence of acute and chronic pancreatitis is more than two times.

The main causes of chronic pancreatitis are:

• alcohol abuse;

• smoking;

• abuse of fatty foods;

• diseases of the gastrointestinal tract, primarily the hepatobiliary system (cholelithiasis);

• genetic predisposition;

• pankreotoxic medicines;

• psycho-emotional stress.

In the development of chronic pancreatitis are two pathogenetic mechanism: inappropriate secretion of pancreatic juice to form in small ducts protein precipitates, which are then calcined and occlusive intraipankreatic ducts and intrapankreatic activation of enzymes of

pancreatic juice (trypsin, chymotrypsin, oxidase proelastase, phospholipase A and lysosomal enzymes). This leads to the necrotic inflammatory process and the subsequent development of fibrosis and fatty degeneration of pancreatic tissue. Chronic pancreatitis is quite often the outcome of acute pancreatitis as a result of violations of ductal patency and fibrosing process of pancreas.

According to the classification of Marseilles - Rome (1989), adopted in European countries, there are the following clinical forms of chronic pancreatitis: obstructive, and parenchymal calcification (inflammation).

Chronic obstructive pancreatitis is caused by obturation of main (Wirsung) pancreatic duct. Defeat occurs above the obstruction, it is uniform and is not accompanied by formation of stones within the ducts. The clinical picture is the leading constant pain.

Chronic calcific pancreatitis is characterized by irregular lobular lesions of the pancreas, differing in intensity of adjacent lobes. In ducts defined protein precipitates or calcifications, cysts and pseudocysts, atresia and stenosis, as well as atrophy of acinar tissue. Often has alcohol etiology. Characterized by relapsing.

Chronic pancreatitis is characterized by the development of parenchymal foci of inflammation with a predominance of mononuclear cell infiltrates in the areas of fibrosis and replacing pancreatic parenchyma. In this form there are no calcifications and defeat ducts. The clinical picture is leading by the progression of endocrine insufficiency and lack of pain.

Usually the first 1-2 attack regarded as acute pancreatitis, all subsequent - as chronic pancreatitis.

Severity of chronic pancreatitis:

• mild course - rare exacerbation (1-2) times a year, short-lived, quickly stoped, moderate pain, pancreatic function is not broken, coprogram is normal;

• average severity - exacerbation 3-4 times a year, lasting pain, pancreatic hyperenzymemia determined, a moderate reduction of exocrine pancreatic function, weight loss, and steatorrhea , and kreatoreya amylorrhea;

• severe course - frequent and prolonged exacerbation with severe pain and dyspeptic syndromes are marked pancreatic diarrhea, weight loss until exhaustion expressed human exocrine pancreatic function.

The diagnosis of chronic pancreatitis is based on the data history, assessment of risk factors, clinical manifestations of disease, structural changes of the pancreas. The characteristic symptoms of chronic pancreatitis are epigastric pain and left upper quadrant, dyspepsia and weight loss. Pain may radiate to the back, left side of the chest, sometimes wearing shingles vary in nature and intensity. Triggered by eating fatty and fried foods, as well as raw fruits and vegetables. In the pathogenesis of pain is increasing intraductal pressure in violation of the outflow of pancreatic secretion, activation of the kallikrein- kinin system and the influence of kinins on pain receptors, impaired microcirculation in the gland, swelling and stretching of the body'scapsule. Besides pain patients concerned about bloating, flatulence, nausea and vomiting, not bringing relief. Because of the pain patients limit the diet, leading to weight loss. Furthermore, exocrine pancreatic insufficiency leads to violations of the processes of digestion and absorption in the small intestine. There may be a transient and mild jaundice due to mechanical compression of the common bile duct edematous head of the pancreas. Progression of the process leads to an increase in exocrine insufficiency, which manifests persistent diarrhea. Liquid stool, large, gray with a fetid odor, occurs almost immediately after eating. Along with exocrine and endocrine insufficiency develops. Arises spontaneously hyperglycemic condition caused by deficiency of glucagon. The emergence of insulin deficiency leads the development of diabetes. Exacerbation of chronic

pancreatitis may be accompanied by fever, leukocytosis in blood marked shift to the left formula, increased erythrocyte sedimentation rate. Exocrine insufficiency confirmed by studies coprological: polifekalia, steatorrhea, kreatoreya, amylorrhea. In the early hours of aggravation increased amylase levels, reaching a maximum by the end of the day, and normalizing to 4 days. Amylase (diastase) in urine rises 6-8 hours after the onset and remains elevated up to 2-3 days. Changes in the structure of the pancreas detected by imaging studies.Ultrasound show: increased size, uneven contours, structure inhomogeneity, low echogenicity, calcifications, cysts of the pancreas. Endoscopic retrograde cholangiopancreatography (performed only in a hospital) is the "gold standard" of morphological diagnosis of chronic pancreatitis. To confirm the diagnosis and the differential diagnosis can be performed computed tomography, magnetic resonance imaging, biopsy of the pancreas.

The differential diagnosis is carried out with peptic ulcer disease, gastroduodenitis, cholecystitis, cholelithiasis, irritable bowel syndrome, pancreatic tumorsand myocardial infarction. Patients with severe acute exacerbation of chronic pancreatitis (pain, high levels of amylase in the blood, accelerated erythrocyte sedimentation rate, leukocytosis) hospitalized in the surgical department.

Treatment. In mild acute treatment can be performed on an outpatient basis. In early acute recommended bed rest, cold on the attachment region of the pancreas, the hunger for 1-3 days. Assign to drink 1.5 liters (alkaline mineral water, light tea without sugar, broth hips). During the hunger for pain prescribed Creon (0.5) or pancreatin (0.25) 2 capsules 4 times a day. Meals begin with a low-calorie diet with reduced fat and carbohydrates and high in protein. Food should be thoroughly crushed, broth or steamed. Excluded dishes containing extractives, stimulating the secretion of gastric and pancreatic juice, bile secretion.Ingestion of small doses 5-6 times a day. Before each

meal should be taken multienzyme preparation (Creon, pancitrat, pancreatin, Mezymum forte)

Drug treatment is aimed at suppressing the secretion fermentootdeleniya pancreas, pain relief and normalization of homeostasis disorders. Appointed by the proton pump inhibitors (omeprazole 20 mg 2 times a day, pantoprozol, rabeprazole) or blockers of histamine H2-receptor (famotidine 20 mg 3 times daily). Can also be used in the early days of antacids and enveloping means (Almagelum 1 teaspoonful 4 times a day, Maalox 1 tablet 3-4 times a day, Aluminium phosphate gel 1 sachet every 4 hours, etc.) Antacids quickly connect hydrochloric acid in therefore the observed analgesic effect. With a mild pain syndrome appointed antispasmodics: drotaverin 40-80 mg, mebeverine hydrochloride (duspatalin) 0.2 g, 2 times a day for 2 weeks. Also can be administered M-cholinergic receptor blockers: 0.1% solution of atropine sulfate 1 ml or 0.2% solution of platifillinehydrotartratisa 1 ml subcutaneously. When expressed pain syndrome use nonselective analgesic tramadol (Tramal) 50-100 mg parenteral or oral capsules or rectal suppositories, application of 1% solution of Promedol 1ml intramuscularly. In the early days of acute intravenous shown 5-10% glucose solution, 500 ml, 400 ml rheopolyglukine, hemodez 300 ml. In the presence of infection in the biliary system the first day of exacerbation are indicatedantibiotics (cephalosporins, semisynthetic penicillins, tetracyclines and macrolides) for 7 days.

With the disappearance of symptoms of acute long recommended diet and pancreatic enzyme replacement therapy (i.e.: Creon, pancytrate, mezim, pancreatin) rate of 10,000-30,000 units of Lipase with each meal. Appointment festal, digestal, panzinorm forte such patients is not recommended because as attached in the bile acid composition of the extracts of the gastric mucosa, vegetable cholagogue enhance pancreatic secretion and may contribute to pain. Tselesoobroazno usages vitamins (B_6 - amino acids to improve

digestion) and vitamin E (α- tocopheryl acetate), which is the active antioxidant enhances synthesis of endogenous proteinase inhibitors, increases the body's nonspecific defense.

During the period of stable remission can be applied physiotherapy: UHF, ultrasound, inductothermy, paraffin baths of projection zone of the pancreas; water treatment - bath (coniferous, radon), circular shower.

Medical and social assessment. Average period of temporary disability during exacerbation of chronic pancreatitis depending on the severity ranged from 10-14 to 30-40 days, given the duration of hospitalization.

In severe chronic pancreatitis with severe pancreatic insufficiency, persistent diarrhea, significant weight loss, patients are directed to the MREC to determine the degree of disability.

Dispanserization is carried out by physicianwith mild stage 2 times a year, with moderate and severe 3-4 times a year. At the dispanserization estimated patient's general condition, and held a general blood chemistry (total protein, urea, creatinine, glucose, ALT, AST, alkaline phosphatase, GGT, bilirubin), urinalysis, coprogram, ultrasound of the abdomen, EGD, ECG.

Treatment and preventive measures include dieting, maintaining a healthy lifestyle (avoiding stressful situations, avoiding alcohol, smoking), enzyme replacement therapy continuously or courses, herbal medicine, physiotherapy, sanatorium treatment with drinking mineral water at the resorts “Narach","Letsy", "Zhdanovichy", "Bobrujsk," sanatorium "Porech’e".

Primary prevention is aimed at the exclusion of risk factors for chronic pancreatitis, secondary - aims to conduct activities that prevent exacerbation.

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Янковская Людмила Валерьевна
Караулько Ирина Владимировна
Гончар Кирилл Владимирович

ПОЛИКЛИНИЧЕСКАЯ ТЕРАПИЯ

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(изд. на английском языке)

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for 4th year foreign students

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