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MEDICAL FACULTY

PRACTICAL HANDBOOK: CLINICAL CASES IN POLICLINIC THERAPY

Approved by the Ministry of Education and Science of the Kyrgyz Republic as a manual for students of higher educational institutions

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P 50 PRACTICAL HANDBOOK: CLINICAL CASES OF POLICLINIC THERAPY / S.M. Shahnabieva, Zh.A. Mamasaidov, I.S. Sabirov, O.O. Karshina, Sh.Sh. Hasanova, A.V. Belinova. – Bishkek: KRSU Publishing House, 2023. – 402 p.

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The textbook is devoted to the current problems of family medicine - improving the level and quality of knowledge of doctors at the polyclinic stage of providing medical and preventive care to the population. The collection of clinical cases can become a tool for primary health care doctors in differential diagnosis, treatment and primary and secondary prevention, examination of working capacity, medical examination.

It is intended for medical institutions of higher education, as well as clinical residents and students.

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Contents

ABBREVIATIONS

AF – atrial fibrillation
AFR – Acute renal failure
AHRQ – Agency for Healthcare Research and Quality
ASA –aspirin
ATRIA – Anticoagulation and Risk Factors in Atrial Fibrillation
BRI – Bleeding Risk Index
BP – Blood pressure
BR – Breath rate
CAT – COPD assessment test
CBC – Complete blood count
CDSR – Cochrane Database of Systematic Reviews
CER – Comparative Effectiveness Review
CHADS2 – Congestive heart failure, Hypertension, Age ≥75, Diabetes mellitus, prior Stroke/transient ischemic attack (2 points)
CHA2DS2-VASc – Congestive heart failure/left ventricular ejection fraction ≤ 40%, Hypertension, Age ≥75 (2 points), Diabetes mellitus, prior Stroke/transient ischemic attack/thromboembolism (2 points), Vascular disease, Age 65–74, Sex category female
CI – confidence interval
COPD – Chronic obstructive pulmonary disease
CT – computed tomography
DM – Diabetes mellitus
eGFR – estimated glomerular filtration rate
ESC – European Society of Cardiology
FDA – U.S. Food and Drug Administration
GWTG – Get With The Guidelines
HAS-BLED – Hypertension, Abnormal renal/liver function, Stroke, Bleeding history or predisposition, Labile international normalized ratio, Elderly (>65 years), Drugs/alcohol concomitantly
HR – hazard ratio

HTN – Hypertension
ICH – intracranial hemorrhage
INR – international normalized ratio
ISTH – International Society on Thrombosis and Hemostasis
ITT – intention-to-treat
ITU – Intensive therapy unit
IV – intravenous
KQ – Key Question
LAA – left atrial appendage
LMWH – low molecular weight heparin
MI – myocardial infarction
Mg – Milligrams
MRA – magnetic resonance angiography
MRI – magnetic resonance imaging
NIH – National Institutes of Health
NRI – net reclassification improvement
OR – odds ratio
PCI – percutaneous coronary intervention
RCT – randomized controlled trial
RFA – radiofrequency ablation
RR – relative risk
SE – standard error
TEE – trans esophageal echocardiography
TEP –Technical Expert Panel
TIA – transient ischemic attack
TIMI – Thrombolysis in Myocardial Infarction
TTE – transthoracic echo
TTR – time in therapeutic range
VKA – vitamin K antagonist
Wt – Weight
XRT – Radiotherapy.

INTRODUCTION

Primary care for patients has been a top priority in health reform in many countries around the world. To support the reform, hospital costs were limited to increase resources at the primary health care level. However, there is still slow progress in the development of the first aid system, which is reflected in many studies. Most patients prefer to see a doctor at tertiary care hospitals in the population, compared to a similar study conducted in Europe and in the United States.

In the light of the reform of the medical education of the Kyrgyz Republic and the training of a general practitioner, the main function of the doctor of the outpatient service is to conduct high-quality diagnosis and treatment of the patient. In order to make a proper diagnosis, a general practitioner needs knowledge of the main clinical disciplines: surgery, obstetrics and gynecology, pediatrics, and, of course, internal diseases. In the work of a primary care doctor, it is important to train students in a clinic, take patients at home and provide pre-hospital care. To improve the quality of primary health care for patients, we have developed a collection of clinical cases in polyclinic therapy were developed.

The training manual is aimed to improve the level and quality of knowledge of doctors at the polyclinic stage of providing medical and preventive care to the population. The collection of tasks can become a tool for primary health care doctors in differential diagnosis, treatment and primary and secondary prevention, examination of working capacity and medical examination.

Answers to clinical cases will help the family doctor to guide the patient according to modern clinical guidelines. The family doctor must know the system of organization of the therapeutic service; to know the causes, mechanisms of development, clinical manifestations, methods of diagnosis, complications, principles of treatment and prevention of diseases of internal organs; be able to make a diagnosis

according to modern classification; be able to define patient management tactics; be able to prescribe and administer treatment within professional competence; be able to organize patient care; be able to organize patient care; be able to carry out dispensary observation and rehabilitation of the patient; be able to draw up medical documentation; be able to provide pre-medical care for emergency conditions in therapy; be able to organize and carry out transportation of the patient to a medical and preventive institution. All of the above tasks are reflected in the standards of answers to the clinical cases.

Timely detection and full treatment of the most common diseases (chronic bronchitis, coronary heart disease, arterial hypertension, early manifestations of gastroduodenitis, non-calculous cholecystitis, arthritis, kidney diseases, endocrine system, etc.), medical examination, rehabilitation measures, examination of temporary incapacity to work, organization of hospital management depends on the knowledge and skills of the local therapist.

The handbook reflects modern views on the etiology, pathogenesis and classification of major diseases of the respiratory, cardiovascular, excretory, endocrine systems, which is very important for a family doctor. The tasks also provide information on epidemiology, clinical picture of diseases of internal organs, criteria for their diagnosis, differential diagnosis, treatment and prevention.

The materials of the latest scientific and practical conferences and symposiums, as well as the standards of the Ministry of Health and Social Development of the Kyrgyz Republic, the Ministry of Health of the Russian Federation, the World Health Organization, the recommendations of the Kyrgyz and Russian Society of Cardiology and International Medicine experts were used in the preparation of the manual.

Thus, the “Collection of clinical cases on Polyclinic Therapy” is devoted to the current problems of Family Medicine - the organization of curative and preventive care for the population in outpatient conditions, the modern diagnostic capabilities of the polyclinic service and their rational use, differential diagnosis and treatment of cardiological, pulmonological, rheumatological, gastroenterological, nephrological, endocrinological and hematological diseases at polyclinic level.

Chapter 1. PULMONOLOGY SECTION

Clinical case No.1

Patient N, 47 years old, an artist, turned to the family doctor at the polyclinic. From anamnesis: has been suffering from chronic obstructive bronchitis for about 15 years, smokes a pack of cigarettes a day, denies the presence of other chronic diseases. Heredity is not burdened. Currently, the patient noticed that shortness of breath increased with moderate physical exertion (accelerated walking, climbing the stairs to the 2nd floor), cough with mucopurulent sputum, difficulty breathing, weakness, sweating when he attended a conference in another city a week ago. Body temperature periodically rises to subfebrile in the evening.

On objective examination. The general condition is satisfactory. Consciousness is clear. The position is active. Satisfactory nutrition. The skin is of normal color, clean, normal humidity. Subcutaneous fat has a homogeneous consistency, there is no peripheral edema. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed. The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart sounds are clear, rhythm is regular, murmurs are heard. Blood Pressure (BP) 120/70 mm Hg, Heart rate (HR) – 86 in minute The respiratory system. On examination, normal shape of the chest. With comparative percussion over the entire surface of the lungs, a pulmonary sound with a boxy hue is determined, the boundaries of the lungs are lowered by 1 rib. BR - 24 in 1 min. During auscultation

over the lungs on both sides, hard breathing is determined with prolonged exhalation, wheezing. On palpation, the abdomen is soft, painless. The percussive boundaries of the liver are within normal limits. The gallbladder is not palpable, palpation is painless. Defecation and diuresis are normal.

Complete Blood Count: RBC – 4,6x10^{12}/L, Hb –150 g/L, MCH – 27 pg/cell, WBC – 6,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 20 mm/h.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 2

Patient N, 42 years old, lawyer, turned to the family doctor at the polyclinic. From the anamnesis: has been suffering from bronchial asthma for 7 years, of moderate severity since she changed her country of residence. In childhood she was allergic to highly allergenic foods, in youth suffered from chronic allergic rhinitis in spring and autumn, atopic dermatitis. Currently, asthma attacks 1-2 times a day are relieved by inhalations of fenoterol, salbutamol. She did not take inhaled corticosteroids.

On objective examination. The general condition is satisfactory. Consciousness is clear. The position is active. Satisfactory nutrition. The skin is of ordinary color, clean, high humidity. Subcutaneous fat has a homogeneous consistency, there is no peripheral edema. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft consistency, painless. Peripheral lymph

nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation the heart tones are clear, rhythm is regular, no murmurs. BP 110/74 mm hg. st. HR – 88 bpm.

The respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a clear pulmonary sound is determined, the boundaries of the lungs are within normal limits. With forced exhalation - single dry wheezing. BR - 19 in 1 min.

On palpation, the abdomen is soft, painless. The percussive boundaries of the liver are within normal limits. The gallbladder is not palpable, palpation in its projection is painless. Defecation and diuresis are normal.

Blood and urine analysis – within normal ranges. ECG - without pathology. With spirometry - FVC - 73%, Tiffno index - 52, FEV1 - 73%.

Gynecologist examination: uterine fibromyoma 4-5 weeks in size.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 3

Patient N, 24 years old, CEO specialist, went to the polyclinic to a family doctor with complaints of fever up to 39.3°C, cough with a small amount of viscous yellowish sputum, inspiratory shortness of

breath with little physical exertion, pain in the right half of the chest of a nagging nature, increasing with coughing and deep breathing, general weakness, loss of appetite.

It is known from the anamnesis: a week ago he fell ill with a viral infection after swimming in a mountain river. Despite outpatient treatment with ibufen and ingavirin, the condition did not improve. Last night, a new rise in temperature was noted and the complaints listed above appeared.

On objective examination: general condition of moderate severity. Satisfactory nutrition. The skin of the body is of ordinary color, clean, high humidity. Mild diffuse cyanosis of the face. Subcutaneous fat has a homogeneous consistency, there is no peripheral edema. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart tones a little bit dull, rhythm is regular, no murmurs. BP 120/75 mm Hg. HR - 96 bpm. Shortness of breath at rest. The examination of the respiratory system revealed an increase in vocal tremor and dulling of percussion sound in a 6 cm^2 area of the corner of the right shoulder blade. The breathing here is hard, dry whistling and moist small-bubbly sonorous wheezes are heard. The abdomen is soft, painless. Liver at the edge of the costal arch.

Complete Blood Count: RBC – $4,5x10^{12}$/L, Hb –125 g/L, MCH – 30 pg/cell, WBC – $12,0x10^9$/L, neutrophils bands – 8%, neutrophils segments – 52%, lymphocytes – 32%, monocytes – 8%, eosinophil – 1%, PLT – $240,0x10^9$/L, ESR – 30 mm/h.

Sputum analysis: yellowish, mucopurulent, viscous, odorless, flat epithelium - 2-3 in n/a, ciliated epithelium - 4-6 in n/a, alveolar — 5-7 in n/a, leukocytes — 80-100 in n/ a, atypical cells and CB were not detected, Gr +coccal flora. Bacteriological analysis of sputum - pneumococcal flora sensitive to benzylpenicillin, cephalosporins, erythromycin, lincomycin was sown.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 4

Patient N, 55 years old, SMM manager, went to the polyclinic to the family doctor with complaints of cough with sputum, the presence of blood veins, pain in the right side when inhaling, increased sweating, weakness, an increase in body temperature to 37.7°C. It is known from the anamnesis that the patient suffered focal pulmonary tuberculosis 12 years ago, was observed by a phthisiologist for 2 years, then was removed from the register. Heredity is not burdened. Since childhood, have often been ill with viral infections more than 4 times a year.

On objective examination. The general condition is satisfactory. Consciousness is clear. The position is active. Satisfactory nutrition. The skin is of normal color, clean, normal humidity. Subcutaneous fat has a homogeneous consistency, there is no peripheral edema. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. Apical beat is located in the V intercostal space 1.5 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart tones are clear, rhythm is regular, no murmurs. BP 125/75 mm Hg.

The respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, the pulmonary sound is determined, the boundaries of the lungs are within the normal range. BR - 24 in 1 min. During auscultation, hard breathing is heard in both lungs, single dry wheezes and small bubbly wheezes in the interscapular space after coughing.

On palpation, the abdomen is soft, painless. The percussive boundaries of the liver are within normal limits. The gallbladder is not palpable, palpation in its projection is painless. Stool and diuresis are normal.

MBT was not detected in sputum by bacterioscopy.

Complete Blood Count: RBC – 4,8x10^{12}/L, Hb –142 g/L, MCH – 27 pg/cell, WBC – 9,2 x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 78%, lymphocytes – 12%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 25 mm/h.

X-ray picture: presence of polymorphic foci in both lungs

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 5

Patient N, 27 years old, cosmetologist, turned to the family doctor at the polyclinic. It is known from the anamnesis: two weeks ago, after working in the garden appear weakness, sweating, subfebrile

temperature, shortness of breath, chest pain on the left appeared. She was treated with the diagnosis: "Acute respiratory viral infection" without effect. Shortness of breath increased, body temperature increased to 390C. At the same time, the patient notes that the chest pains on the left have decreased.

On objective examination. The general condition is satisfactory. Consciousness is clear. The position is active. The skin is of normal color, clean, normal humidity. Subcutaneous fat has a homogeneous consistency, there is no peripheral edema. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart tones are clear, rhythm is regular, no murmurs. BP 120/70 mm Hg.

The respiratory system. The left half of the chest lags behind in the act of breathing. Dullness is determined to the left below the IV rib during lung percussion. Breathing in this area is not listened to. BR - 25 in 1 min.

On palpation, the abdomen is soft, painless. Percussion boundaries of the liver are normal. The gallbladder is not palpable, palpation in its projection is painless. Defecation and diuresis are normal.

Complete Blood Count: RBC – 4,2x10^{12}/L, Hb –140 g/L, MCH – 27 pg/cell, WBC – 12,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 80%, lymphocytes – 20%, monocytes – 6%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 38 mm/h.

MBT was not detected in sputum.

Questions:

1. What is the preliminary diagnosis?

2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?

4. Medical and labor expertise. Dispensary observation

Clinical case No. 6

Patient N, 65 years old, a private entrepreneur, turned to the family doctor at the polyclinic with complaints of fever up to 38°C, weakness, sore throat. The doctor diagnosed "Acute respiratory viral infection", prescribed treatment with antiviral, antihistamines, as well as rinsing the throat with chamomile decoction, calendula tincture. Three weeks later, the patient re-applied to the polyclinic, since after a viral infection, he has a subfebrile temperature, weakness, loss of strength, cough with scant sputum, shortness of breath at rest.

On objective examination. The general condition is satisfactory. Consciousness is clear. The position is active. Reduced nutrition. The skin is of normal color, clean, normal humidity. Subcutaneous fat has a homogeneous consistency. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart tones are clear, rhythm is regular, no murmurs. BP 110/70 mm Hg.

The respiratory system. With auscultation of the lungs, weakened breathing is heard on the right in the upper part of the lung. BR - 25 in 1 min.

On palpation, the abdomen is soft, painless. The percussive boundaries of the liver are within normal limits. The gallbladder is not palpable, palpation in its projection is painless. Defecation and diuresis are normal.

Complete Blood Count: RBC – 4,1x10^{12}/L, Hb –112 g/L, MCH – 27 pg/cell, WBC – 3,8x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 40 mm/h.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 7

Patient N, 57 years old, a policeman, turned to a family doctor with complaints of increased expiratory dyspnea with minor physical exertion (washing, dressing), accompanied by whistling in the chest; paroxysmal cough with an increase in sputum up to 20 ml per day in the morning, an increase in temperature to 37.8 ° C.

It is known from the anamnesis: dry cough for the last 20 years. Over the past 10 years, he have been noticing expiratory shortness of breath with accelerated walking, climbing to the 2nd floor. Over the past year, shortness of breath has sharply intensified and began to bother with normal exercise, conversation, thick, scanty sputum of yellow-green color appeared. Exacerbations 2 times over the past year. Deterioration within 2 weeks: the temperature rose to 37.8 ° C, cough intensified, purulent sputum appeared, its volume increased, expiratory dyspnea intensified. He took Ampicillin 250 mg 3 times a day at home, Berodual 2 breaths 4 times a day without improvement. Than he turned to the emergency room of the city hospital.

Anamnesis of life: smokes for 30 years for 1.5 packs a day, consumes 200 ml of vodka 1 time a month. Works as a foreman at a construction site. Relatives have no respiratory diseases. There is no allergic predisposition in anamnesis.

On objective examination: the skin is moist, diffuse cyanosis. The temperature is 37.5 °C. Height - 172 cm, weight - 60 kg. The thorax is enlarged in anteroposterior size, smoothness of the supra- and subclavian pits, the epigastric angle is obtuse. Percussion sound is boxed. The mobility of the lower pulmonary margin along the middle axillary line is 2.5 cm. During auscultation – weakened vesicular breathing, scattered dry wheezing on both sides. BR – 24 per minute. The heart tones are muted, the rhythm is correct. HR - 100 beats per minute. BP is 120/72 mm Hg. The abdomen is soft, painless. The size of the liver according to Kurlov is 10 ×9 × 8 cm. There is no swelling. According to the modified questionnaire of the British Medical Research Council for assessing the severity of the condition mMRS questionnaire - 4 points.

Complete Blood Count: RBC – 4,4x10^{12}/L, Hb –165 g/L, Ht - 50%, WBC – 8,4 x10^{9}/L, neutrophils bands – 8%, neutrophils segments – 62%, lymphocytes – 25%, monocytes – 4%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 28 mm/h.

The general analysis of sputum is viscous, green in color. Leukocytes - 100 in the field of vision, red blood cells – no.

According to pulse oximetry, oxygen saturation is 88%.

Spirometry-FEV1 – 29%, VLC- 52%, FEV1/FVC index - 57%. When tested with Salbutamol 4 doses, the increase in FEV1 is 2.12%.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 8

Patient N, 43 years old, a human resources specialist, turned to a family doctor with complaints of daily attacks of suffocation, especially difficult exhalation, general weakness, malaise. After the attack, a small amount of viscous vitreous sputum departs.

It is known from the anamnesis that she has been ill for 3 years, these complaints occur annually in June, in July all symptoms disappear. He associates his illness with the loss of a loved one. There are two children of 7 and 13 years old who also have attacks of suffocation. The mother and grandmother also had attacks of suffocation. The patient has an allergy to red foods and some medications.

On objective examination: the condition of moderate severity. The patient is sitting with her hands resting on the edge of the chair. The skin is clean, with a cyanotic tint. The chest is barrel-shaped, the supra- and subclavian areas are smoothed, the intercostal spaces are expanded, there is swelling of the cervical veins, the participation of auxiliary muscles, intercostal retraction. Breathing is loud, with a whistle and noise and with an elongated exhalation, 26 times per minute. With percussion, a box sound is noted, the lower border of the lungs along the mid-axillary line is determined at the level of the 9th rib, the excursion of the lungs along this line is 2 cm. Against the background of weakened vesicular respiration with an elongated exhalation, dry whistling wheezes are heard. Heart tones are rhythmic, clear, 92 in min., blood pressure 110/70 mm Hg. No abdominal pathology was detected. The peak exhalation rate at peak flowmetry is 70% of the proper one.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 9

Patient N, 57 years old, a molecular nutritionist, went to the polyclinic at her place of residence with complaints of headache, high fever, sharp stabbing pain in the right half of the chest, aggravated by coughing, shortness of breath, cough with rusty sputum. The disease began acutely, after hypothermia: swam in an outdoor pool in October. Ill for the fourth day, was treated with folk methods.

On objective examination: the temperature is 39.4 °C. The general condition is serious. The face is hyperemic, herpetic rashes are detected on the lips. Subcutaneous fat has a homogeneous consistency. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart tones are clear, rhythmic, noises are heard. Pulse 110 per min., rhythmic. BP 110/70 mm Hg.

The respiratory system. BR - 28 in min. On examination, the right half of the chest lags behind when breathing, when palpation, the vocal tremor on the right is increased, when percussion is detected on the right above the lower lobe, sound bluntness is determined, when auscultation is on the right above the lower lobe, breathing is weakened, vesicular, crepitation is determined.

On palpation, the abdomen is soft, painless. The percussive boundaries of the liver are within normal limits. The gallbladder is not palpable, palpation in its projection is painless. Defecation and diuresis are normal.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 10

Patient N, 37 years old, psychologist, went to the polyclinic to the family doctor with complaints of weakness, malaise, shortness of breath, cough with the release of abundant mucopurulent sputum without odor, especially in the morning, up to 300 ml is released per day. Sometimes hemoptysis is noted.

It is known from the anamnesis that in childhood the patient had frequent exacerbations of bronchopulmonary infections, which, as a rule, happened in wet, cold weather. The patient's body temperature increased, the amount of sputum increased; sometimes, at the beginning of an exacerbation, an increase in sputum is preceded by a delay in its release. At the age of 6, the patient underwent inpatient treatment in a hospital with a diagnosis of Acute bronchitis, severe course, at the age of 12 he underwent inpatient treatment with a diagnosis of Chronic bronchitis, at the age of 15 and 24 he also underwent inpatient treatment for bronchopulmonary infection. From the age of 17, the patient smokes 1 pack a day.

On objective examination: the temperature is 37.4 °C. The general condition is satisfactory. The skin is pale, cyanosis of the lips, subcutaneous fat is insufficiently developed, the nail phalanges of the toes and hands are in the form of "drumsticks", nails are in the form of "watch glasses". Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. The heart tones are muted. Pulse - 95 per minute, rhythmic. BP - 130/60 mm Hg. BR - 22 in min. With percussion over the lower

parts of the lungs, there is a dulling of the percussion sound, with auscultation, breathing is weakened, sonorous wet wheezes are heard in the lower parts.

On palpation, the abdomen is soft, painless. The percussive boundaries of the liver are within normal limits. The gallbladder is not palpable, palpation in its projection is painless. Stool and diuresis are normal.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Chapter 2. STANDARD OF ANSWERS FOR THE PULMONOLOGY SECTION

Clinical case No. 1

1. What is the preliminary diagnosis?

COPD II degree (moderate-severe course), low risk of exacerbations (B). Emphysema of the lungs. High nicotine dependence.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory tests

Sputum examination. Cytological examination of sputum provides information about the nature of the inflammatory process and its severity and is a mandatory method. Cultural microbiological examination of sputum is advisable to carry out with uncontrolled progression of the infectious process and the selection of rational antibiotic therapy.

Blood gases. The study of the arterial blood gases for the detection of hypoxemia and hypercapnia - for routine observation can be carried out pulse oximetry, informative at saturation (saturation) Blood O2 is more than 92%; with the development of complications, it does not replace direct examination.

Immunological examination of blood is additional and is carried out with the steady progression of the infectious inflammatory process to identify signs of immune deficiency.

Instrumental research

Mandatory research methods:

1. Spirometry - performed to diagnose and monitor the effectiveness of treatment (according to availability): determination of the

volume of forced exhalation in the first second - FEV1 and the Tiffno index (FEV1 / FVC). The post-bronchodilation value of FEV1/FVC < 0.7 of the proper value is a sign of obstruction and a criteria for the presence of COPD.

2. Chest X-ray at the first treatment. Further according to the indications, but at least once a year.

3. Pulse oximetry is indicated in patients with FEV1 < 50%, as well as in the period of exacerbation and patients with shortness of breath at rest (according to availability).

4. Electrocardiography – there may be signs of overload and/or hypertrophy of the right parts of the heart.

5. CAT – COPD assessment test (to assess the severity of symptoms and the quality of life of the patient).

6. Assessment of the severity of dyspnea on the mMRC scale.

7. Fagerstrom test (for all smokers, to determine the degree of tobacco dependence)

3. What is the patient's management?

I. Non-pharmacological effects.

1. Educational programs.

2. Reducing the impact of risk factors (including smoking cessation).

II. Drug therapy:

1. Bronchodilators.

2. Anti-inflammatory drugs (inhaled glucocorticosteroids).

3. Antibacterial drugs (only in case of infectious exacerbation).

4. Mucolytic drugs.

III. Long-term oxygen therapy and noninvasive ventilation (according to availability).

1. Assessment of COPD symptoms. Test Score (CAT) or Shortness of Breath Scale (mMRC).

3. Assessment of the risk of exacerbations of COPD. The frequency of exacerbations + Spirometry.

2. Assessment of the air flow velocity limit. Spirometric classifications of COPD.

4. Assessment of concomitant COPD diseases. Concomitant diseases must be actively identified and treated.

4. Medical and labor expertise. Dispensary observation

Temporary disability. With mild severity during exacerbation, the estimated time of temporary disability in COPD patients is 10-12 days. With moderate severity, temporary disability in COPD patients is 20-21 days. With severe severity – 21-28 days. In extremely severe cases, the duration of temporary disability is up to 35 days, of which inpatient treatment is up to 23 days.

Persistent disability.

Disability group III is established with mild or moderate severity of COPD, PI I–II or II st. and HF 0-1 st., leading to a restriction of the ability to work, self-service, movement of the I st., if necessary, transfer to another job of lower qualification or reduction in the volume of production activities and the impossibility of rational employment according to the conclusion of the MC of medical and preventive institutions.

Disability group II is established with severe or moderate severity of COPD, PI II-III st. and HF I-II st., leading to a restriction of the ability to work, self-service, movement II st. In some cases, patients can work in specially created conditions, at home, taking into account professional skills.

Disability group I is established with severe progressive course of COPD, PI III st. and HF III st., leading to limited ability to self-care, movement III st.

Primary prevention of COPD includes a healthy lifestyle, smoking cessation, exclusion of the influence of passive smoking, as well as various atmospheric and household pollutants, industrial hazards. Secondary prevention consists in early detection and timely treatment of COPD.

Secondary prevention. Secondary prevention of COPD is aimed at preventing exacerbations of the disease and its progression. Rational employment of the patient plays a role here, periodic appointment

of vitamin therapy courses, regular physical therapy with respiratory gymnastics, sanatorium treatment, treatment of foci of infection.

Dispensary observation

1. Patients with COPD should be under the supervision of a family doctor 3-4 times a year.

2. According to indications - consultation of a pulmonologist, allergist, otorhinolaryngologists.

3. The patient should be trained in the rules of using a metered-dose inhaler, spacer, nebulizer, peak flowmeter, and, if necessary, an oxygen concentrator.

4. Regular vaccination with influenza and anti-pneumococcal (Str. Pneumonia) vaccines.

5. At each medical appointment, if the patient smokes, a 3-minute conversation with the smoker about the dangers of smoking with a recommendation to quit smoking should be conducted.

Clinical case No. 2

1. What is the preliminary diagnosis?

Bronchial asthma, atopic form, moderate severity, partially controlled. Uterine fibromyoma 4-5 weeks in size.

2. What additional tests would you recommend to the patient, and what are the expected results?

About BA:

1) biochemical blood test;
2) general sputum analysis;
3) blood test to detect common IgE;
4) skin tests;
5) determination of allergen-specific IgE in the blood;

Instrumental research

Mandatory research methods:

- Daily monitoring of MVE with determination of variability at home (with an individual device). Characteristic are the "morning failure symptom" and MVE variability > 20%.
- Bronchodilation test confirms the reversibility of bronchial obstruction – an increase in FEV1 > 12% (+200 ml) or MVE > 20% (+60 l/min) 10-15 minutes after inhalation of 200-400 mcg of salbutamol.

Note. A negative result of a bronchodilation test does not exclude the diagnosis of bronchial asthma.

- Bronchoprovocation test (to determine bronchial hyperreactivity) - reduction of FEV1 > 20% per standard dose of methacholine or in a specialized hospital with an initial index of FEV1 ≥ 80%, without exacerbation).

Research on indications:

- Chest radiography - to exclude other pathology from the respiratory system or to identify complications of bronchial asthma.
- Skin allergological tests (prick-test) – in order to clarify the allergological status.
- Pulse oximetry (in patients with signs of severe exacerbation of the disease).
- Determination of blood gases (if possible) - in the presence of signs of respiratory failure.

About uterine fibromyoma:
Ultrasound examination;
Hysteroscopy;
Diagnostic curettage;
Cytological and histological studies;
Laboratory diagnostics;
Metrography

3. What is the patient's management?

The main components of treatment include:

1. Teaching the patient.

2. Assessment and monitoring of the severity of asthma with the help of peak flowmetry.

3. Control of trigger factors, exclusion (elimination) of provoking factors.

4. Selection of pharmacological agents, including basic (inhaled glucocorticosteroids) and symptomatic (broncholytic) drugs, depending on the severity of the course.

Treatment by steps:

2nd stage of ICS low doses (Beclomethasone 250-500 mcg / day) or leukotriene modifiers to continue taking inhaled short-acting beta-2 agonists + Low doses of ICS (Beclomethasone 250-500 mcg / day)

Treatment of uterine fibromyoma can be carried out surgically or conservatively.

Surgical treatment

The most commonly used method is myomectomy, when the formation is removed. But such a technique does not guarantee the absence of relapses in the future. If the preservation of the organ is impossible, then its partial removal (defundation) or total extirpation is carried out.

A relatively young method is arterial embolization, which involves artificial blockage of the arteries feeding the uterus and the tumor. As a result, the reverse development of education occurs.

Conservative treatment without surgery is based on hormonal treatment methods.

Preparations of the gestagenic group, if there are no menstrual cycle failures;

Estrogen-progestogenic medications when the pathology is characterized by acyclic bleeding in patients younger than 45 years of age;

Atigonadotropic agents;

Androgen-containing drugs at the age after 45.

Hormonal treatment makes therapeutic sense if the degree of tumor development does not exceed 12 weeks of pregnancy.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. With a mild form, the patient is released from work for 5-7 days, with severe manifestations of the disease – for 10-12 days with a possible the release of the MAC for up to 2 weeks in case of adverse weather and production factors.

Persistent disability. When assessing the limitations of life, the form and severity of the course of bronchial asthma, the severity of complications, including those caused by therapy, the effectiveness of treatment, the severity of concomitant diseases; education, profession, qualifications, nature and working conditions, work orientation are taken into account.

Disability of group III is established by patients with bronchial asthma of mild and moderate severity, including hormone-dependent, PI I and II st. with limited ability to work, self-service, movement - I st., working in contraindicated types and working conditions and in need of rational employment (reduction of qualifications or reduction in the volume of production activity).

Disability of group II is established in patients with moderate and severe bronchial asthma with persistent severe respiratory and circulatory disorders (PI II-III st. and HF IIA st.), as well as disorders of the endocrine system (diabetes mellitus, adrenal insufficiency) caused by steroid therapy, with limited ability to self-care, movement, learning II st. In some cases, patients can work in specially created conditions, in particular - at home, taking into account professional skills.

Disability of group I is established with severe progressive course of bronchial asthma, refractory to treatment, development of PI III st., HF IIB-III st., other irreversible complications, with limited ability to self-care, movement, work activity III st.

Primary prevention. Reducing the impact on the patient of factors that provoke exacerbation of bronchial asthma:

1. Hypoallergenic diet.

2. Smoking cessation (including pregnant women and parents of young children).

3. Refusal of food additives and certain medications (aspirin and its analogues, yellow food coloring tartrazine).

4. Reducing or eliminating the impact of professional factors.

5. Exclusion of exposure to other risk factors: allergens, viral infections, air pollutants.

6. Sanitation of foci of chronic nasopharyngeal infection, dental sanitation, treatment of GERD, prevention of helminthiasis.

7. Healthy lifestyle.

Secondary prevention. Secondary prevention of bronchial asthma should include the elimination of adverse factors from the environment (allergens, irritants, etc.), the organization of a lifestyle, physical education, rational work arrangement, timely training and retraining, the organization of asthma schools and asthma clubs; the preparation of printed, video, audio educational products, the creation of an association of patients. It is necessary to conduct individual work with patients, including communication with psychologists.

The basis of secondary prevention is timely and adequate treatment at all stages (outpatient, inpatient, sanatorium-resort); compilation and monitoring of the completeness and quality, timeliness of the implementation of an individual rehabilitation program for a disabled person.

Dispensary observation

1. A patient with asthma should be monitored by a family doctor.

2. During outpatient follow-up, the family doctor should work out an individual plan for long-term asthma treatment.

3. All patients with bronchial asthma should be trained in a special educational program (asthma school).

4. If necessary, a specialist should be consulted: a pulmonologist or an allergist.

5. Examination of an otorhinolaryngologist, dentist, gastroenterologist (with GERD), parasitologist (for the prevention of helminthiasis).

Patient education

The patient should:

- Know the main causal factors (possible allergens at home and at work) and be able to control them.
- Be able to assess your condition and keep a “Self-control Diary”.
- Be able to use a peak flowmeter, know the system of zones “red, yellow, green”.
- Be able to use the inhaler correctly.
- Know the main groups of medicines, be able to control asthma and use basic and fast-acting medicines available.
- Know when and where he should seek help.

Clinical case No. 3

1. What is the preliminary diagnosis?

Preliminary diagnosis: community-acquired pneumonia in the lower lobe of the right lung of unspecified etiology.

2. What additional tests would you recommend to the patient, and what are the expected results?

Determination of arterial blood gases. Hypoxemia with a decrease in the level of pO2 below 60 mmHg (when breathing room air) is a prognostic unfavorable sign, indicates the need to place the patient in the ICU and is an indication for oxygen therapy.

Microbiological diagnostics.

Polymerase chain reaction (PCR). This method is promising for the diagnosis of bacterial pathogens such as C. pneumoniae, M. pneumoniae and L. pneumophila.

Instrumental research

X-ray diagnostics

X-ray examination is performed at the beginning of the disease and not earlier than 14 days after the start of antibacterial treatment.

In the presence of pleural effusion and conditions for safe pleural puncture (visualization on a laterogram of freely displaced fluid with a layer thickness > 1.0 cm), the examination of pleural fluid should involve counting leukocytes with a leukocyte formula, determining pH, LDH, protein level, bacterioscopy of a Gram-stained smear and other methods to identify mycobacteria, sowing for aerobes, anaerobes and mycobacteria.

Fibrobronchoscopy with evaluation of microbial contamination of the obtained material

3. What is the patient's management?

Antibacterial therapy should be prescribed empirically and as early as possible.

Amoxicillin / clavulanate, amoxicillin / sulbactam orally (1 tablet (0.625g) 3 times a day) ± macrolide orally, or Respiratory fluoroquinolone (levofloxacin, moxifloxacin, hemi-floxacin) orally, or Cefuroxime axetil

4. Medical and labor expertise. Dispensary observation.

Temporary disability. The duration of disability in pneumonia depends on the characteristics of the course of the disease, the timeliness and usefulness of antibacterial therapy; the severity of respiratory disorders; concomitant diseases; the age of the patient, profession.

The average duration of temporary disability of patients treated in a polyclinic (hospital at home) is 20-25 days.

When patients are discharged to work, it is necessary to take into account not only the normalization of the clinical and radiological picture (radiological control in 30-40 days), laboratory parameters, but also the profession, working conditions. Under favorable working conditions (absence of drafts, high humidity, temperature fluctuations), discharge may occur at an earlier date, and vice versa, under unfavorable conditions. It is mandatory to be exempt from additional work loads for 1-2 months.

All patients working in unfavorable conditions should be temporarily employed by the conclusion of the MAC for appropriate work

without lowering their qualifications for a period of 1 to 6 months in order to prevent relapse and complications.

With a mild form, the patient is released from work for 5-7 days, with pronounced manifestations of the disease - for 10-12, with a possible release of up to 2 weeks under unfavorable weather and production factors.

Persistent disability. Disability criteria: the first signs of the formation of chronic PI from grade I-II and higher, formed in COPD.

Primary prevention. Primary prevention is aimed at preventing the development of the disease. If you follow simple rules, you can avoid the occurrence of pneumonia:

1. Quitting smoking.

2. Strengthening the immune system by hardening, walking in the fresh air.

3. If necessary, the doctor may prescribe multivitamins, restorative drugs.

4. Moderate physical activity, mainly aerobic: walking, running, swimming, cycling.

5. Fractional nutrition with a sufficient amount of vegetables and fruits.

6. Vaccination.

Vaccines are currently available against many pathogens of pneumonia, for example, Streptococcus pneumoniae vaccine, Haemophilus influenzae type B vaccine, influenza A virus vaccine, influenza B virus vaccine and measles virus vaccine. Vaccination against influenza and pneumococcal infection is strongly recommended for people over 65 years of age, and for severe chronic diseases – regardless of age (due to the high risk of severe complications of influenza and pneumonia). HIV-infected people who still have an immune response are recommended to be vaccinated against influenza, vaccination against Streptococcus pneumoniae and vaccination against Haemophilus influenzae type B. The twenty-three-valent pneumococcal vaccine currently used is effective against approximately 90% of virulent serotypes of Streptococcus pneumoniae.

Secondary prevention. All actions are aimed at preventing the recurrence of the disease. To the above-mentioned points of primary prevention, medical examination is added, that is, accounting for patients who have suffered pneumonia. They are required to do an X-ray of the lungs once a year, and after recovery, take a general blood test every month.

During the dispensary observation, a complex of therapeutic and preventive measures is carried out (daily morning gymnastics, breathing exercises, massage, sauna, if necessary – physiotherapy, it is recommended to take adaptogens and other drugs that increase immune and general biological reactivity).

Clinical case No. 4

1. What is the preliminary diagnosis?

Preliminary diagnosis: subacute disseminated pulmonary tuberculosis. In favor of the tuberculosis etiology of the process is evidenced by: mild manifestations of clinical symptoms, a characteristic X-ray picture: the presence of polymorphic foci in both lungs, moderate changes in the blood picture.

2. What additional tests would you recommend to the patient, and what are the expected results?

Sputum and urine analysis for MBT by seeding, general urine analysis, consultation of an otolaryngologist, tomographic examination of the lungs, tuberculin tests, bronchoscopy.

3. What is the patient's management?

The basic principles of treatment of tuberculosis patients: treatment should be comprehensive (etiotropic, pathogenetic, symptomatic therapy, collapse therapy, surgery); treatment should be long-term, continuous; continuity in the treatment of patients is necessary. Chemotherapy is the main method of treating tuberculosis patients. Antituberculosis drugs should act on intracellularly located mycobacteria,

penetrate into the foci of caseous decay, do not reduce their activity in an acidic environment (foci of decay).

According to the degree of activity of anti - tuberculosis drugs, they are divided into 3 groups:

The most effective drugs are isoniazid and rifampicin

Medium-efficacy drugs - ethambutol, streptomycin, protionamide (ethionamide), pyrazinamide, kanamycin, cycloserine, florimycin.

3. Drugs of moderate efficacy - PASA, thioacetazone.

There are 2 stages of tuberculosis chemotherapy:

1) Intensive care. The goal is to suppress the reproduction of the bacterial population and achieve its quantitative reduction.

2) The phase of further treatment. The goal is to affect the remaining bacterial. a population that is more often intracellularly in the form of persistent forms.

Treatment of this patient is necessary with streptomycin, rifampicin, isoniosid, ethambutol. When bacterial excretion stops and the cavity heals within the first 3 months from the start of treatment, streptomycin and rifampicin are canceled, treatment is continued with two drugs (isoniazid and ethambutol) another 6 months.

With the cavity preserved, regardless of the results of the bacteriological examination (BC +, BC-), the treatment started with three drugs is continued for another 3 months. After 6 months, the dynamics of the process is evaluated again. With the healing of the cavity and the cessation of bacterial excretion, rifampicin is canceled and treatment with isoniazid and ethambutol is continued for another 3 months. If, after 6 months of treatment, the cavity does not close, then the question arises about the need for surgical intervention.

In the treatment of patients who have previously taken chemotherapy drugs, the tactics change. Patients previously treated with chemotherapy drugs often secrete drug-resistant Mycobacteria. In such cases, therapeutic tactics are determined by the spectrum of resistance of the pathogen to chemotherapy drugs. Chemotherapy is prescribed according to the antibioticogram.

4. Medical and labor expertise. Dispensary observation.

Disability of the 3rd group is established if the patient has:

moderate violations of the respiratory system function in the absence of positive clinical and radiological dynamics on the background of chemotherapy; with the preservation of bacterial excretion (MBT+) in the period of loss of activity; and / or in the presence of residual changes after cured tuberculosis of the respiratory organs (local pneumofibrosis, fibrotic focal changes) with grade II PI, transient or permanent pulmonary hypertension (CHF 0 or CHF 1 stage). Availability of MBT + 6 months or more.

Disability of the 2nd group is established if the patient has:

severe violations of the respiratory system function with ineffective chemotherapy; with the preservation of bacterial excretion (MBT+) in the period of loss of activity; and / or in the presence of residual changes after cured tuberculosis (pneumosclerosis, cirrhosis, bronchiectasis). The presence of PI II, III degree and CHF IIA stage.

Disability of the 1st group is established if the patient has:

significantly pronounced disorders of the body's functions due to the presence of severe multiple organ complications (amyloidosis, decompensated chronic pulmonary heart, polyserositis, cachexia, and so on). The presence of PI III degree and CHF IIB or III stage.

Tuberculosis prevention includes:

a) sanitary and preventive measures aimed at the source of bacterial release, the conditions in which infection is possible, a healthy person who is at risk of infection and disease;

b) specific, consisting of vaccination, BCG revaccination, chemoprophylaxis.

Temporary disability. Temporary disability and its duration in patients with tuberculosis of the respiratory system depends on the characteristics of the course of a specific process, in particular the nature. the prevalence of morphological changes in the lungs, the severity of the clinical course, the presence of BC in sputum, the type of complications, such as respiratory and circulatory disorders. hemoptysis; spontaneous pneumothorax, amyloids of internal organs, thoracic and bronchial fistulas, etc. The terms of temporary disability may

be increased in persons over 50 years of age, if patients have severe, concomitant diseases. Methods and types of treatment have a significant impact on the duration of temporary disability. Adequate therapy, continuity in therapeutic tactics can contribute to reducing the duration of temporary disability and returning patients to work, preserving their social status. Epidemiological factors taken into account when employing patients can also affect the timing of temporary disability.

Dispensary observation

1. Patients with tuberculosis should be under the supervision of a family doctor, a phthisiologist.

2. According to indications - consultation of a pulmonologist, allergist, otorhinolaryngologist.

3. Patients with an active form of tuberculosis need therapeutic, diagnostic, anti-epidemic, rehabilitation and social measures.

All patients with active tuberculosis, identified for the first time or with a relapse of tuberculosis, are enrolled only in the I group of dispensary observation.

The chronic course of active forms of tuberculosis is a long (more than 2 years), including a wave-like (with alternating subsidence and exacerbation) course of the disease, in which clinical, radiological and bacteriological signs of the activity of the tuberculosis process persist.

4. At each medical appointment, if the patient smokes, a 3-minute conversation with the smoker about the dangers of smoking with a recommendation to quit smoking should be conducted.

Clinical case No. 5

1. What is the preliminary diagnosis?

Preliminary diagnosis: left-sided exudative pleurisy of tuberculous etiology.

2. What additional tests would you recommend to the patient, and what are the expected results?

1) pleural puncture; the cellular composition of the exudate may be lymphocytic, the protein content is more than 30 g / l;

2) tuberculin samples may be hypersensitive to tuberculin;

3) X-ray tomography after exudate evacuation;

4) pleuroscopy can reveal macroscopic and microscopic data in favor of a preliminary diagnosis.

Differential diagnosis is performed with nonspecific pleurisy. In favor of tuberculosis etiology indicates:

- gradual development of the disease with symptoms of tuberculosis intoxication;
- young age of the patient;
- lack of effect from non-specific treatment;
- the nature of the hemogram.

3. What is the patient's management?

Before receiving the first results of the examination, prescribe treatment with broad-spectrum antibiotics.

The basic principles of treatment of tuberculosis patients: treatment should be comprehensive (etiotropic, pathogenetic, symptomatic therapy, collapse therapy, surgery); treatment should be long-term, continuous; continuity in the treatment of patients is necessary. Chemotherapy is the main method of treating tuberculosis patients. Antituberculosis drugs should act on intracellularly located mycobacteria, penetrate into the foci of caseous decay, do not reduce their activity in an acidic environment (foci of decay).

3 groups are used: isoniazid and rifampicin; ethambutol, streptomycin, protionamide (ethionamide), pyrazinamide, kanamycin, cycloserine, florimycin; PASC, thioacetazone.

There are 2 stages of tuberculosis chemotherapy:

1) Intensive care. The goal is to suppress the reproduction of the bacterial population and achieve its quantitative reduction.

2) The phase of further treatment. The goal is to affect the remaining bacterial. a population that is more often intracellularly in the form of persistent forms.

With the cavity preserved, regardless of the results of the bacteriological examination (BC +, BC-), the treatment started with three drugs is continued for another 3 months. After 6 months, the dynamics

of the process is evaluated again. With the healing of the cavity and the cessation of bacterial excretion, rifampicin is canceled and treatment with isoniazid and ethambutol is continued for another 3 months. If, after 6 months of treatment, the cavity does not close, then the question arises about the need for surgical intervention.

In the treatment of patients who have previously taken chemotherapy drugs, the tactics change. Patients previously treated with chemotherapy drugs often secrete drug-resistant Mycobacteria. In such cases, therapeutic tactics are determined by the spectrum of resistance of the pathogen to chemotherapy drugs. Chemotherapy is prescribed according to the antibioticogram.

4. Medical and labor expertise. Dispensary observation.

Disability of the 3rd group is established if the patient has:

moderate violations of the respiratory system function in the absence of positive clinical and radiological dynamics on the background of chemotherapy; with the preservation of bacterial excretion (MBT+) in the period of loss of activity; and / or in the presence of residual changes after cured tuberculosis of the respiratory organs (local pneumofibrosis, fibrotic focal changes) with grade II PI, transient or permanent pulmonary hypertension (CHF 0 or CHF 1 stage). Availability of MBT + 6 months or more.

Disability of the 2nd group is established if the patient has:

severe violations of the respiratory system function with ineffective chemotherapy; with the preservation of bacterial excretion (MBT+) in the period of loss of activity; and / or in the presence of residual changes after cured tuberculosis (pneumosclerosis, cirrhosis, bronchiectasis). The presence of PI II, III degree and CHF IIA stage.

Disability of the 1st group is established if the patient has:

significantly pronounced disorders of the body's functions due to the presence of severe multiple organ complications (amyloidosis, decompensated chronic pulmonary heart, polyserositis, cachexia, and so on). The presence of PI III degree and CHF IIB or III stage.

Tuberculosis prevention includes:

a) sanitary and preventive measures aimed at the source of bacterial release, the conditions in which infection is possible, a healthy person who is at risk of infection and disease;

b) specific, consisting of vaccination, BCG revaccination, chemoprophylaxis.

Temporary disability. Temporary disability and its duration in patients with tuberculosis of the respiratory system depends on the characteristics of the course of a specific process, in particular the nature. the prevalence of morphological changes in the lungs, the severity of the clinical course, the presence of BC in sputum, the type of complications, such as respiratory and circulatory disorders. hemoptysis; spontaneous pneumothorax, amyloids of internal organs, thoracic and bronchial fistulas, etc. The terms of temporary disability may be increased in persons over 50 years of age, if patients have severe, concomitant diseases. Methods and types of treatment have a significant impact on the duration of temporary disability. Adequate therapy, continuity in therapeutic tactics can contribute to reducing the duration of temporary disability and returning patients to work, preserving their social status. Epidemiological factors taken into account when employing patients can also affect the timing of temporary disability.

Dispensary observation

1. Patients with tuberculous pleurisy should be under the supervision of a family doctor, a phthisiologist.

2. According to indications - consultation of a pulmonologist, allergist, otorhinolaryngologist.

3. Patients with an active form of tuberculosis need therapeutic, diagnostic, anti-epidemic, rehabilitation and social measures.

All patients with active tuberculosis, identified for the first time or with a relapse of tuberculosis, are enrolled only in the I group of dispensary observation.

The chronic course of active forms of tuberculosis is a long (more than 2 years), including a wave-like (with alternating subsidence and exacerbation) course of the disease, in which clinical, radiological and bacteriological signs of the activity of the tuberculosis process persist.

4. At each medical appointment, if the patient smokes, a 3-minute conversation with the smoker about the dangers of smoking with a recommendation to quit smoking should be conducted.

Clinical case No. 6

1. Formulate a preliminary diagnosis.

Preliminary diagnosis: cancer of the upper lobe bronchus on the right.

2. Assign additional research methods.

Since the patient is elderly, the first task of the family doctor is to exclude cancer. It is necessary: a complete clinical examination, bronchoscopy with the taking of material for morphological examination, lung tomography, ultrasound of the abdominal organs.

3. What is the patient's management?

During morphological verification of the diagnosis, local (localization, histological characteristics of the tumor, anatomical type of growth, stage of the disease) and general (functional state of respiratory and cardiovascular activity, etc.) are determined. concomitant diseases, immune status) criteria of the disease.

Based on the data obtained, a treatment method is chosen:

1) radical - surgery (lobectomy, pneumonectomy), combined (surgery + radiation therapy), chemotherapy, complex (removal of the primary focus + chemotherapy).

2) palliative.

4. Medical and labor expertise. Dispensary observation.

Temporary disability (TD) is determined for the period:

- diagnosis of lung cancer and examination to determine the possibilities of surgical treatment;
- surgical treatment and adaptation after it;
- conducting a course of polychemotherapy.

Compensation of impaired functions after lobectomy occurs after 3-4 months, after pneumonectomy - after 4-6 months. Conducting radiation and chemotherapy slightly increases these terms.

The criteria for effective completed treatment are the restoration of body weight, restoration or stabilization of respiratory and circulatory function, restoration of clinical and biochemical parameters of blood, urine, the formation of a strengthened scar of the chest and the elimination of asthenoneurotic syndrome.

Effective incomplete treatment with the nearest favorable prognosis after lobectomy and bilobectomy for highly differentiated tumors of stages I and II allows you to continue treatment according to the temporary disability certificate.

Disability of the 3rd group is established if the patient has:

1. Bronchial and lung cancer of stage I, II (T1,2,3N0,1M0) after combined treatment (segmentectomy, lobectomy, bilobectomy with mediastinal lymphadenectomy in combination with radiation or antitumor drug therapy) without local and/or general complications. 2. Pulmonectomy (with re-examination without signs of a decrease in cardiorespiratory reserves).

3. Stage I lung cancer after radical radiation therapy.

4. Stage I lung cancer during targeted therapy.

Disability of the 2nd group is established if the patient has:

1. Stage III bronchial and lung cancer (T1,2,3,4N0,1,2,3M0) after combined treatment without local and/or general complications.

2. Bronchial and lung cancer of stage I - III (T1,2,3,4N0,1,2,3M0) after combined treatment with local and/or general complications.

3. Stage II - III lung cancer after combined treatment (if the patient refuses or for medical reasons from surgical methods of treatment).

4. During the treatment of small cell lung cancer, regardless of the stage of the disease. 5. Pulmonectomy with a decrease in cardiorespiratory reserves.

Disability of the 1st group is established if the patient has:

Stage IV lung cancer (T1,2,3,4N1,2,3M1), incurable condition.

Dispensary observation. A clear organization of dispensary monitoring of those operated for lung cancer allows timely diagnosis of relapses and metastases. Dispensary supervision is carried out by a family doctor.

Treatment of the detected disease, after which dynamic monitoring is mandatory:

1 year: once a quarter,

2 year: every six months,

3 year: once a year.

with a successful cure, a citizen is removed from the dispensary register.

In case of relapse, the person is transferred to group 2 (treatment is being carried out) or to group 4 if treatment is impossible;

In the absence of a relapse – lifelong dispensary observation:

1 year: once a quarter,

2 and 3 years: every six months,

subsequent years: once a year

Clinical case No. 7

1. Formulate a preliminary diagnosis.

Preliminary diagnosis: Chronic obstructive pulmonary disease, extremely severe, grade 4, with pronounced symptoms, high risk, in the phase of infectious exacerbation. Smoking index 45 pack/years. Pulmonary insufficiency of the 2nd degree.

2. Assign additional research methods.

Laboratory tests

Cultural microbiological examination of sputum is advisable to carry out with uncontrolled progression of the infectious process and the selection of rational antibiotic therapy.

Blood testing

The gas composition of the blood. The study of the gas composition of arterial blood to detect hypoxemia and hypercapnia - for routine observation, pulse oximetry can be performed, informative at saturation (saturation) Blood O2 is more than 92%; with the development of complications, it does not replace direct examination.

Immunological examination of blood is additional and is carried out with the steady progression of the infectious inflammatory process to identify signs of immune deficiency.

Instrumental research

Mandatory research methods:

1. Chest X-ray at the first treatment. Further according to the indications, but at least once a year.

2. Pulse oximetry is indicated in patients with FEV1 < 50%, as well as in the period of exacerbation and patients with shortness of breath at rest (according to availability).

3. Electrocardiography – there may be signs of overload and/or hypertrophy of the right parts of the heart.

4. CAT-test (to assess the severity of symptoms and the quality of life of the patient).

5. Assessment of the severity of dyspnea on the mMRC scale.

6. Fagerstrom test (for all smokers, to determine the degree of tobacco dependence)

3. What is the treatment tactics?

General mode. Quitting smoking. Low-flow oxygen therapy for at least 15 hours a day through an oxygen concentrator. Therapy of infectious exacerbation and treatment of patients of group D Berodual 0.5 ml - 1 ml + Sodium chloride 0.9% - 2 ml × 3 times a day through a nebulizer (a combination of m-holinoblocker and 2-adrenomimetics).

Inhaled glucocorticosteroids + long-acting beta-adrenomimetics (combined Salmeterol preparations/Fluticasone - 25/125 mcg 2 vd 2 times, Formoterol/Budesonide - 4.5/160 mcg 2 vd 2 times, etc.) + prolonged m-cholinolytic (Tiotropium bromide - 18 mcg 1 time per day (blocker of m3-cholinergic receptors in the respiratory tract) or Glycopyrronium bromide - 50 mcg 1 time per day

Aclidinium bromide 1 vd 2 times a day, etc.). Expectorant drugs Ambrogexal - 30 mg 3 times a day or acetylcysteine - 600 mg 1 time a day dissolved in 100 ml of water. Since there is an infectious exacerbation, the most likely pathogens in this case may be Haemophilus influenzae PRSP, Enterobacteria, gram-, P. aeruginosa; it is necessary to prescribe the antibacterial drug Ciprofloxacin (400 mg 2 times a day in / in drip) and other drugs with antisinegenic activity. exercise therapy. Breathing exercises.

4. Medical and labor expertise. Dispensary observation. Terms TD. The approximate time of the TD is 5-7 days. It can increase in the cold season, in the presence of industrial hazards (the presence of toxic, irritating substances in the inhaled air). The cough can last up to 1-1.5 months. If he does not interfere with the patient, then he can be recognized as able-bodied.

Dispensary observation. A district therapist examines patients 1 time in 2-3 months, an otolaryngologist and a dentist - 2 times a year. The frequency of observation of the group of family doctor: 2 times in 6 months. Examination of doctors of other specialties: pulmonologist, phthisiologist - according to indications. Frequency of laboratory and diagnostic examinations: general blood test - 1 time (according to indications more often). Fluorography – according to indications. Spirometry, peak expiratory flow (PEF) - 2 times a year. Sputum analysis for BC - 1 time. Skin tests with allergens - according to indications. ECG - 1 time per year. The main therapeutic and health-improving measures: recommendations of a healthy lifestyle. Tempering procedures. Rehabilitation of foci of chronic infection. Criteria for the effectiveness of medical examination: normalization of the ventilation function of external respiration. With recurrent bronchitis after

exacerbation, it is advisable to stay at least once a year for 2 months in a local sanatorium.

Clinical case No. 8

1. Formulate a preliminary diagnosis.

Preliminary diagnosis: 1. Atopic bronchial asthma, moderate severity. Emphysema of the lungs. Confirmation: 1) anamnesis data: daily attacks of suffocation, expiratory dyspnea, the release of a small amount of viscous vitreous sputum; the association of the onset of seizures with the flowering period; the association of the onset of the disease with a psychoemotional shock; hereditary predisposition (attacks of suffocation in close relatives); the presence of allergies to food and medicines; 2) objective status: during examination: forced position occupied to facilitate breathing, cyanotic skin tone, barrel-shaped chest, smoothness of supra- and subclavian pits, expansion of intercostal spaces, intercostal retraction, swelling of cervical veins, BR - 26 in min.; with lung percussion, box sound, lowering of the lower border of the lungs, decreased lung excursion; with auscultation, dry wheezing wheezes against the background of weakened vesicular breathing, elongation exhale.

2. Assign additional research methods.

About BA:

1) general blood test;
2) biochemical blood analysis;
3) general sputum analysis;
4) Blood test to detect common IgE;
5) skin tests;
6) determination of allergen-specific IgE in the blood;

Instrumental research

Mandatory research methods:

- Daily monitoring of MVE with determination of variability at home (with an individual device). Characteristic are the “morning failure symptom” and MVE variability > 20%.

- Spirometry allows you to confirm the diagnosis when airway obstruction is detected (a decrease in the FEV1 index and the FEV1/VLC ratio).

Note. Normal spirometry indicators do not exclude the diagnosis of bronchial asthma.

- Bronchodilation test confirms the reversibility of bronchial obstruction – an increase in FEV1 > 12% (+200 ml) or MVE > 20% (+60 l/min) 10-15 minutes after inhalation of 200-400 mcg of salbutamol.

Note. A negative result of a bronchodilation test does not exclude the diagnosis of bronchial asthma.

- Bronchoprovocation test (to determine bronchial hyperreactivity) - reduction of FEV1 > 20% for a standard dose of methacholine or histamine (carried out only in a specialized hospital with an initial index of FEV1 ≥ 80%, without exacerbation).

Research on indications:

- Chest radiography - to exclude other pathology from the respiratory system or to identify complications of bronchial asthma.
- Skin allergological tests (prick-test) – in order to clarify the allergological status.
- Pulse oximetry (in patients with signs of severe exacerbation of the disease).
- Determination of blood gases (if possible) - in the presence of signs of respiratory failure.

3. What is the treatment tactics?

The patient needs the appointment of basic treatment of bronchial asthma, consultation with an allergist. Principles of treatment: Semi-bed rest. The diet is hypoallergenic. Sympathomimetics of short and prolonged action: berotec, salbutamol, teopec. Combined drugs: berodual Mast cell membrane stabilizers: intal, tailed Inhaled glucocorticosteroids: becotide, beclamet. Breathing exercises. Massage. Psychotherapy. Spa treatment. The prognosis for life is favorable in the case of anti-relapse treatment. Prevention of exacerbations: eliminate the effect of allergens (if possible). During the flowering period of

herbs, the window panes should be covered with wet gauze, wet cleaning of rooms should be carried out daily, carpets should be removed; peak flowmetry should be carried out in order to monitor bronchial patency. If the indicators of peak expiratory velocity deteriorate, treatment should be adjusted; dispensary observation, patient training in asthma schools; specific hyposensitization. 5. The technique of using a pocket inhaler according to the algorithm of action.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. With a mild form, the patient is released from work for 5-7 days, with pronounced manifestations of the disease - for 10-12 days with a possible release of up to 2 weeks under adverse weather and production factors.

Persistent disability. When assessing the limitations of vital activity, the form and severity of the course of bronchial asthma, the severity of complications, including those caused by the therapy, the effectiveness of treatment, the severity of concomitant diseases; education, profession, qualifications, nature and working conditions, work orientation.

Disability of group III is established by patients with bronchial asthma of mild and moderate severity, including hormone-dependent, PI I and II st. with limited ability to work, self-service, movement - I st., working in contraindicated types and working conditions and in need of rational employment (reduction of qualifications or reduction in the volume of production activity).

Disability of group II is established in patients with moderate and severe bronchial asthma with persistent severe respiratory and circulatory disorders (PI II-III st. and HF IIA st.), as well as disorders of the endocrine system (diabetes mellitus, adrenal insufficiency) caused by steroid therapy, with limited ability to self-care, movement, learning II st. In some cases, patients can work in specially created conditions, in particular - at home, taking into account professional skills.

Disability of group I is established with severe progressive course of bronchial asthma, refractory to treatment, development of PI III st.,

HF IIB-III st., other irreversible complications, with limited ability to self-care, movement, work activity III st.

Primary prevention. Reducing the impact on the patient of factors that provoke exacerbation of bronchial asthma:

1. Hypoallergenic diet.

2. Smoking cessation (including pregnant women and parents of young children).

3. Refusal of food additives and certain medications (aspirin and its analogues, yellow food coloring tartrazine).

4. Reducing or eliminating the impact of professional factors.

5. Exclusion of exposure to other risk factors: allergens, viral infections, air pollutants.

6. Sanitation of foci of chronic nasopharyngeal infection, dental sanitation, treatment of GERD, prevention of helminthiasis.

7. Healthy lifestyle.

Secondary prevention. Secondary prevention of bronchial asthma should include the elimination of adverse factors from the environment (allergens, irritants, etc.), the organization of a lifestyle, physical education, rational work arrangement, timely training and retraining, the organization of asthma schools and asthma clubs; the preparation of printed, video, audio educational products, the creation of an association of patients. It is necessary to conduct individual work with patients, including communication with psychologists.

The basis of secondary prevention is timely and adequate treatment at all stages (outpatient, inpatient, sanatorium-resort); compilation and monitoring of the completeness and quality, timeliness of the implementation of an individual rehabilitation program for a disabled person.

Dispensary observation

1. A patient with asthma should be monitored by a family doctor.

2. During outpatient follow-up, the family doctor should work out an individual plan for long-term asthma treatment.

3. All patients with bronchial asthma should be trained in a special educational program (asthma school).

4. If necessary, a specialist should be consulted: a pulmonologist or an allergist.

5. Examination of an otorhinolaryngologist, dentist, gastroenterologist (with GERD), parasitologist (for the prevention of helminthiasis).

Patient education

The patient should:

- Know the main causal factors (possible allergens at home and at work) and be able to control them.
- Be able to assess your condition and keep a "Self-control Diary".
- Be able to use a peak flowmeter, know the system of zones "red, yellow, green".
- Be able to use the inhaler correctly.
- Know the main groups of medicines, be able to control asthma and use basic and fast-acting medicines available.
- Know when and where he should seek help.

Clinical case No. 9

1. Formulate a preliminary diagnosis.

Preliminary diagnosis: croup pneumonia, unspecified etiology.

Confirmation:

1) anamnesis data:

- intoxication syndrome, chest pain that increases with coughing, shortness of breath, cough with "rusty sputum";
- acute onset of the disease;

2) objective data: fever,

- on examination: facial hyperemia, herpetic rashes on the lips, lagging of the affected side of the chest when breathing;
- with percussion: sound dulling over the lower lobe of the right lung;
- palpation - increased vocal tremor;
- during auscultation - weakened vesicular respiration, crepitation.

2. Assign additional research methods.

A general blood test (neutrophilic leukocytosis with a shift of the leukoformula to the left, an increase in ESR).

Microscopic and bacteriological examination of sputum (identification of the pathogen and determination of its sensitivity to antibiotics).

Chest X-ray (shading of the corresponding lobe of the lung).

Determination of arterial blood gases. Hypoxemia with a decrease in the level of pO2 below 60 mmHg (when breathing room air) is a prognostic unfavorable sign, indicates the need to place the patient in the ICU and is an indication for oxygen therapy.

Microbiological diagnostics.

Polymerase chain reaction (PCR). This method is promising for the diagnosis of bacterial pathogens such as C. pneumoniae, M. pneumoniae and L. pneumophila.

Instrumental research

X-ray diagnostics

X-ray examination is performed at the beginning of the disease and not earlier than 14 days after the start of antibacterial treatment.

In the presence of pleural effusion and conditions for safe pleural puncture (visualization on a laterogram of freely displaced fluid with a layer thickness > 1.0 cm), the examination of pleural fluid should involve counting leukocytes with a leukocyte formula, determining pH, LDH, protein level, bacterioscopy of a Gram-stained smear and other methods to identify mycobacteria, sowing for aerobes, anaerobes and mycobacteria.

Fibrobronchoscopy with evaluation of microbial contamination of the obtained material

3. What is the treatment tactics?

Principles of treatment:

Strict bed rest, supervision of the staff on duty.

Diet No. 15, enriched with vitamins, semi-liquid, nutritious food.

Plentiful drink: mineral waters, fruit juices, cranberry juice, tea with raspberry jam, tea with lime flowers.

Antibacterial therapy should be prescribed empirically and as early as possible.

Amoxicillin / clavulanate, amoxicillin / sulbactam orally (1 tablet (0.625g) 3 times a day) ± macrolide orally, or Respiratory fluoroquinolone (levofloxacin, moxifloxacin, hemifloxacin) orally, or Cefuroxime axetil

Vascular agents: caffeine, cordiamine.

Oxygen therapy.

Breathing exercises.

Chest massage.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. The duration of disability in pneumonia depends on the characteristics of the course of the disease, the timeliness and usefulness of antibacterial therapy; the severity of respiratory disorders; concomitant diseases; the age of the patient, profession.

The average duration of temporary disability of patients treated in a polyclinic (hospital at home) is 20-25 days.

When patients are discharged to work, it is necessary to take into account not only the normalization of the clinical and radiological picture (radiological control in 30-40 days), laboratory parameters, but also the profession, working conditions. Under favorable working conditions (absence of drafts, high humidity, temperature fluctuations), discharge may occur at an earlier date, and vice versa, under unfavorable conditions. It is mandatory to be exempt from additional work loads for 1-2 months.

All patients working in unfavorable conditions should be temporarily employed by the conclusion of the MAC for appropriate work without lowering their qualifications for a period of 1 to 6 months in order to prevent relapse and complications.

With a mild form, the patient is released from work for 5-7 days, with pronounced manifestations of the disease - for 10-12, with a possible release of up to 2 weeks under unfavorable weather and production factors.

Persistent disability. Disability criteria: the first signs of the formation of chronic PI from grade I-II and higher, formed in COPD.

Primary prevention. Primary prevention is aimed at preventing the development of the disease. If you follow simple rules, you can avoid the occurrence of pneumonia:

1. Quitting smoking.

2. Strengthening the immune system by hardening, walking in the fresh air.

3. If necessary, the doctor may prescribe multivitamins, restorative drugs.

4. Moderate physical activity, mainly aerobic: walking, running, swimming, cycling.

5. Fractional nutrition with a sufficient amount of vegetables and fruits.

6. Vaccination.

Vaccines are currently available against many pathogens of pneumonia, for example, Streptococcus pneumoniae vaccine, Haemophilus influenzae type B vaccine, influenza A virus vaccine, influenza B virus vaccine and measles virus vaccine. Vaccination against influenza and pneumococcal infection is strongly recommended for people over 65 years of age, and for severe chronic diseases – regardless of age (in due to the high risk of severe complications of influenza and pneumonia). HIV-infected people who still have an immune response are recommended to be vaccinated against influenza, vaccination against Streptococcus pneumoniae and vaccination against Haemophilus influenzae type B. The twenty-three-valent pneumococcal vaccine currently used is effective against approximately 90% of virulent serotypes of Streptococcus pneumoniae.

Secondary prevention. All actions are aimed at preventing the recurrence of the disease. To the above-mentioned points of primary prevention, medical examination is added, that is, accounting for patients who have suffered pneumonia. They are required to do an X-ray of the lungs once a year, and after recovery, take a general blood test every month.

During the dispensary observation, a complex of therapeutic and preventive measures is carried out (daily morning gymnastics,

breathing exercises, massage, sauna, if necessary – physiotherapy, it is recommended to take adaptogens and other drugs that increase immune and general biological reactivity).

Clinical case No. 10

1. Formulate a preliminary diagnosis.

Preliminary diagnosis: bronchiectatic disease in the acute stage.

2. Assign additional research methods.

Laboratory tests

Sputum examination. Cytological examination of sputum provides information about the nature of the inflammatory process and its severity and is a mandatory method. Cultural microbiological examination of sputum is advisable to carry out with uncontrolled progression of the infectious process and the selection of rational antibiotic therapy.

Blood testing

Clinical analysis: with a stable course of COPD, there are no significant changes in the content of peripheral blood leukocytes. With exacerbation, neutrophilic leukocytosis with a rod-shaped shift and an increase in ESR are most often observed. However, these changes are not always observed. With the development of hypoxemia, polycythemic syndrome is formed in COPD patients, which is characterized by a change in hematocrit (hematocrit > 47% in women and > 52% in men), an increase in the number of red blood cells, high hemoglobin levels, low ESR and increased blood viscosity.

The gas composition of the blood. The study of the gas composition of arterial blood to detect hypoxemia and hypercapnia - for routine observation, pulse oximetry can be performed, informative at saturation (saturation) Blood O2 is more than 92%; with the development of complications, it does not replace direct examination.

Immunological examination of blood is additional and is carried out with the steady progression of the infectious inflammatory process to identify signs of immune deficiency.

Instrumental research

Mandatory research methods:

1. Spirometry - performed to diagnose and monitor the effectiveness of treatment

2. Chest X-ray at the first treatment. Further according to the indications, but at least once a year.

3. Pulse oximetry is indicated in patients with FEV1 < 50%, as well as in the period of exacerbation and patients with shortness of breath at rest (according to availability).

4. Electrocardiography – there may be signs of overload and/or hypertrophy of the right parts of the heart.

5. Bronchography: various forms of bronchiectasis.

3. What is the treatment tactics?

Bed rest mode. Diet No. 15, enriched with proteins (meat, fish, cottage cheese) and vitamins (fruits, vegetables, juices, syrups). Antibacterial therapy: semi-synthetic penicillins (ampicillin, oxacillin), cephalosporins, gentamicin. Expectorant drugs: a mixture with thermopsis, althea, lazolvan. Plentiful alkaline drink: mineral waters. Postural drainage: Quincke position (the foot end of the bed is raised by 25-30 cm, the patient is in this position for 3-4 hours with breaks). Chest massage. Breathing exercises. Lavage (washing) of the bronchi.

4. Medical and labor expertise. Dispensary observation.

A slightly pronounced degree of dysfunction of the respiratory system, characterized by a moderate form of the course of diseases, with periodic short-term exacerbations (4-6 times a year, lasting from three to six weeks), with bronchial obstruction during periods of exacerbation with emphysema of the lungs, with chronic respiratory failure of the I degree - 20%

Moderate degree of impairment of the respiratory system, characterized by a moderate form of the course of diseases, with periodic exacerbations in which there is an increase in symptoms with shortness of breath (4-6 exacerbations per year, lasting from three to eight weeks), FEV1 is more than 50%, but less than 80% of the proper

values, the ratio of FEV1 to the forced vital capacity of the lungs is less than 70%), chronic respiratory insufficiency hypoxemic, chronic respiratory insufficiency II degree - 40-50%

A pronounced degree of impairment of the function of the respiratory system, characterized by a severe form of the course of diseases, with frequent exacerbations in which there is an increase in shortness of breath (exacerbations more than 6 times a year, lasting more than eight weeks), FEV1 is more than 30%, but less than 50% of the proper values, the ratio of FEV1 to the forced vital capacity of the lungs is less than 70%) chronic respiratory insufficiency hypoxemic and hypercapnic, chronic respiratory insufficiency II, III degree; chronic pulmonary heart failure stage IIA - 70-80%

A significantly pronounced degree of impairment of the function of the respiratory system, characterized by a severe form of the course of diseases, continuously recurring, with constant pronounced dyspnea; FEV1 is more than 30%, but less than 50% of the proper values, the ratio of FEV1 to the forced vital capacity of the lungs is less than 70%; hypercapnia, chronic respiratory hypoxemia, chronic respiratory alkalosis, chronic respiratory insufficiency of II, III degree.; chronic pulmonary heart failure of IIB, III stage - 90-100%.

Dispensary observation. A district therapist examines patients 1 time in 2-3 months, an otolaryngologist and a dentist - 2 times a year. The frequency of observation of the group of family doctors: 2 times in 6 months. Examination of doctors of other specialties: pulmonologist, phthisiologist - according to indications. Frequency of laboratory and diagnostic examinations: general blood test - 1 time (according to indications more often). Fluorography – according to indications. Spirometry, peak expiratory flow (PEF) - 2 times a year. Sputum analysis for BC - 1 time. Skin tests with allergens - according to indications. ECG - 1 time per year. The main therapeutic and health-improving measures: recommendations of a healthy lifestyle. Tempering procedures. Rehabilitation of foci of chronic infection. Criteria for the effectiveness of medical examination: normalization of the ventilation function of external respiration.

Chapter 3. CARDIOLOGY SECTION

Clinical case No. 1

Patient N, 53 years old, conductor, turned to the family doctor at the polyclinic with complaints of paroxysmal compressive pain behind the breastbone at the height of any tension: both emotional and physical; the nature of the pain is burning, pressing, squeezing. In mild cases, just chest discomfort; the duration of the attack is from 1 to 10 minutes.

From the anamnesis it is known that the patient is seen by a doctor for Coronary heart disease, stable exertional angina, Functional class II, postinfarction cardiosclerosis and circulatory failure, Functional class 1. Concomitant diagnosis: chronic lumbosacral radiculitis in remission. Angina pectoris was diagnosed within 5 years. 3 years ago he had an acute myocardial infarction. At present, angina attacks are troubling with significant physical exertion, and are easily removed by nitroglycerin.

On objective examination: general condition of moderate severity. Body temperature 36.7 ° C. Consciousness is clear. Active position. Satisfactory nutrition. The skin is pale, high humidity. Subcutaneous adipose tissue of homogeneous consistency, no edema and pastiness. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm medially from the left mid-clavicular line. With percussion, the border of relative cardiac dullness is within normal limits. On auscultation, heart sounds are muffled, rhythm is regular, no noise is heard. The heart rate is 78 beats per minute. Blood pressure 130/80 mm Hg. Respiratory system. On examination, the chest is of the correct shape, symmetrical. With

comparative percussion over the entire surface of the lungs, a pulmonary sound is determined. Breathing cleanliness - 19 in 1 min. At auscultation over the lungs, vesicular breathing is determined on both sides, wheezing is not heard. On palpation, the abdomen is soft, painless. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

On the ECG - sinus rhythm, correct rhythm, heart rate 75 beats per minute, Q waves in leads II, III, aVF, with an exercise ECG test ("treadmill test") - exercise tolerance 600 kgm / min.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 2

Patient N, 47 years old, a geologist, turned to the family doctor at the polyclinic with complaints of pain in the epigastric region, accompanied by weakness, sweating, nausea.

From the anamnesis it is known that previously the pain did not bother him, he considered himself healthy. An attempt to stop the pain with a baking soda solution did not bring relief. After taking Nitroglycerin under the tongue, the pain decreased, but did not completely disappear. Nausea, weakness, sweating persisted. In the morning, an ambulance team was called. The ECG showed a deep Q wave in leads III and aVF; the ST segment in the same leads is raised above the isoline, arcuate, passes into a negative T wave; ST segment in leads I, a VL and V1 to V4 below the contour.

On objective examination: general condition of moderate severity. Body temperature 36.6 ° C. Consciousness is clear. Active position. Increased nutrition. The skin is pale, high humidity. Subcutaneous

adipose tissue of a homogeneous consistency, evenly distributed over the surface of the body, there is no edema. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm medially from the left mid-clavicular line. With percussion, the border of relative cardiac dullness is within normal limits. On auscultation, heart sounds are muffled, rhythm is regular, no noise is heard. The heart rate is 80 beats per minute. Blood pressure is 125/75 mm Hg. Respiratory system. On examination, the chest is of the correct shape, symmetrical. With comparative percussion over the entire surface of the lungs, a pulmonary sound is determined. BR - 20 in 1 min. At auscultation over the lungs, vesicular breathing is determined on both sides, wheezing is not heard. On palpation, the abdomen is soft, painless. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 3

Patient N, 57 years old, choreographer, turned to the family doctor at the polyclinic with complaints of sharp compressive pains behind the sternum, which spread to the left shoulder and epigastric region.

From the anamnesis it is known that such pains occurred for the first time, on the way to work. Since the clinic was nearby, the patient consulted a doctor. In the past he suffered from pneumonia. Smokes 1 pack a day, does not abuse alcohol.

On objective examination: general condition of moderate severity. Body temperature 36.6 ° C. Consciousness is clear. Active position. Satisfactory nutrition. The skin is pale, high humidity. Subcutaneous adipose tissue of homogeneous consistency, there is no edema. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. The cardiovascular system. BH 24 per minute. Pulse 92 per minute, rhythm is regular, satisfactory filling. Blood pressure - 165/80 mm Hg. Borders of the heart: right - along the right edge of the sternum, left - 1 cm outward from the left mid-clavicular line. Heart sounds are muffled, no murmurs. Respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a pulmonary sound is determined. Respiratory rate - 19 in 1 min. At auscultation over the lungs, vesicular breathing is determined on both sides, wheezing is not heard. On palpation, the abdomen is soft, painless. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 4

Patient N, 56 years old, rector, turned to the family doctor at the polyclinic with complaints of a feeling of interruptions in the work of the heart.

From the anamnesis it is known that such sensations are noted for about a year. However, over the past month, interruptions have

become more frequent, often accompanied by weakness and even dizziness. The appearance of interruptions is more often associated with physical activity. Periodically, there are attacks of squeezing pain in the chest during brisk walking, passing at rest.

On objective examination: general condition of moderate severity. Body temperature 36.6 ° C. Consciousness is clear. Active position. Increased nutrition. The skin is of normal color and moisture. Subcutaneous fatty tissue of homogeneous consistency, evenly distributed over the surface of the body, there is no edema. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. The cardiovascular system. Blood pressure is 140/95 mm Hg. Pulse - 74 per minute, arrhythmic. The borders of the heart are not changed. Heart sounds are somewhat muffled, arrhythmic - against the background of a regular rhythm, an extraordinary contraction or a longer interval between heart contractions is periodically determined. Respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a pulmonary sound is determined. Respiratory rate - 15 in 1 min. At auscultation over the lungs, vesicular breathing is determined on both sides, wheezing is not heard. On palpation, the abdomen is soft, painless. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 5

Patient N, 54 years old, a beekeeper, turned to the family doctor at the polyclinic with complaints of headache in the occipital region, vomiting, dizziness, flashing of flies before the eyes.

From the history it is known that the above complaints appeared this afternoon. Before that, I had not been treated by a doctor. Headaches worried periodically for several years, but the patient did not attach any importance to them and did not go to the doctors.

On objective examination: general condition of moderate severity. Body temperature 36.4 ° C. Consciousness is clear. Active position. Satisfactory nutrition. The skin is pale, clean. Subcutaneous adipose tissue of homogeneous consistency, no edema and pastiness. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. Vesicular breathing, no wheezing, respiratory rate 13 per minute. The left border of relative cardiac dullness is 1 cm outward from the midclavicular line. Muffled heart sounds, pronounced emphasis of the 2nd tone on the aorta. Heart rate 92 / min., Pulse is firm, tense. Blood pressure 200/110 mm Hg. On palpation, the abdomen is soft, painless. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 6

Patient N, 46 years old, a winemaker, turned to the family doctor at the polyclinic with complaints of weakness, intense pressing pains behind the sternum radiating to the left shoulder, lasting for 2 hours, not removed by taking nitroglycerin, interruptions in the work of the heart, a sharp general weakness, cold clammy sweat.

From the anamnesis it is known that the day before the above complaints, the patient worked excessively physically. In the anamnesis - within 4-5 years, notes attacks of squeezing pains behind the sternum during brisk walking, lasting 3-5 minutes, passing at rest and after taking nitroglycerin.

On objective examination: general condition of moderate severity. Body temperature 36.7 ° C. Consciousness is clear. Active position. Satisfactory nutrition. Pale skin, acrocyanosis, moist palms. Pulse 96 per minute. Subcutaneous adipose tissue of homogeneous consistency, no edema and pastiness. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. The cardiovascular system. The borders of the heart are expanded to the left by 1.5 cm. Deaf tones, single extrasystoles. Blood pressure 90/60 mm Hg. Respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a pulmonary sound is determined. Respiratory rate - 19 in 1 min. At auscultation over the lungs, vesicular breathing is determined on both sides, wheezing is not heard. On palpation, the abdomen is soft, painless. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

Complete Blood Count: RBC – 4,3x10^{12}/L, Hb –136 g/L, MCH – 27 pg/cell, WBC – 9,2x10^{9}/L, neutrophils bands – 4%, neutrophils segments – 66%, lymphocytes – 23%, monocytes – 7%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 10 mm/h.

Blood serum: CRB +, LDH 360 U / L, CPK 2.4 mmol / hl, AST 24 U / L, ALT 16 U / L. PTI - 100%.

Complete blood count on the sixth day from the onset of pain: RBC – 4,6x10^{12}/L, Hb –136 g/L, MCH – 27 pg/cell, WBC – 6,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 64%, lymphocytes – 24%, monocytes – 9%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR –24 mm/h.

On the ECG - the rhythm is non-sinus, the rhythm is correct, the electrical axis of the heart is not determined. Heart rate 80 beats per minute, ST segment elevation and Q waves in leads II, III, aVF, V1, V2, V3, V4.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 7

Patient N, 62 years old, interior designer, turned to the family doctor at the polyclinic with complaints of a sensation of frequent irregular heartbeat accompanied by weakness and unpleasant sensations in the region of the heart.

From the anamnesis it is known that similar sensations of palpitations, notes more often during exercise, notes during the last year. These episodes were short-lived and passed on their own at rest. When analyzing the outpatient card over the past 2 years, an increased cholesterol content was repeatedly revealed (total cholesterol up to 7.6 mmol / l, LDL - 3.36 mmol / l).

On objective examination: general condition of moderate severity. Body temperature 36.7 ° C. Consciousness is clear. Active position. Satisfactory nutrition. The skin is somewhat pale, hypersthene type of constitution, high humidity. Subcutaneous adipose tissue of

homogeneous consistency, no edema and pastiness. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. The cardiovascular system. BP - 150/100 mm Hg. The pulse on the radial arteries is frequent, arrhythmic, the frequency is 102 per minute. Heart sounds at the apex have inconsistent sonority, arrhythmic, heart rate - 112 in 1 minute. Respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a pulmonary sound is determined. BH - 19 in 1 min. At auscultation over the lungs, vesicular breathing is determined on both sides, wheezing is not heard. On palpation, the abdomen is soft, painless. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

Complete Blood Count: RBC – 4,5x10^{12}/L, Hb –140 g/L, MCH – 27 pg/cell, WBC – 6,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 6 mm/h.

General urine analysis - beats. weight - 1020, no protein, no sugar, l - 1-2 p / sp.

Blood test for sugar - blood glucose - 4.5 mmol / l.

Blood for cholesterol - 7.6 mmol / l, AST - 5 units / l, ALT - 4 units / l, CRP - 0, PTI - 102%, coagulation - 8 minutes. The fundus of the eye - atherosclerosis of the retinal vessels.

Echocardiography: the average pulmonary arterial pressure – 23 mm Hg. The left atrium is 3.2 cm. Left ventricular diastolic size of course is 5.0 cm. The systolic size is 3.0 cm. EF is 68%. The thickness of the posterior wall of the left ventricle is 1.0 sm. The thickness of the IVS is 0.7 cm. The right ventricle is 2.4 cm. The anterior wall of the right ventricle - 0.3 cm.

Questions:

1. What is the preliminary diagnosis?

2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?

4. Medical and labor expertise. Dispensary observation

Clinical case No. 8

Patient N, 16 years old, a stuntman, turned to the family doctor at the polyclinic with complaints of an increase in blood pressure up to 180/120 mm Hg. Art., and also disturbed by headaches, nosebleeds, pain in the legs after a long walk.

On objective examination: hypersthenic constitution of the patient, developed shoulder girdle, hyperemia of the face. The pulse on the radial artery is tense, rhythmic with a frequency of 64 per minute. In the lungs, vesicular breathing, no wheezing. The left border of the heart is 2 cm outward from the left mid-clavicular line. Heart sounds are rhythmic, sonorous, at all points of auscultation, a rough systolic murmur is heard, conducted on the vessels of the neck and in the interscapular space. BP on the brachial artery - 170/110 mm Hg., on the femoral artery - 150/80 mm Hg. Art. The liver and spleen are not palpable. The lower extremities are cold, pale, the pulsation of the vessels is weak.

Complete Blood Count: RBC – 4,7x10^{12}/L, Hb –136 g/L, MCH – 27 pg/cell, WBC – 6,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 8 mm/h.

ASL-O - 63 units. , DPA - 180 units, fibrinogen - 220 units, albumin - 60%, alpha-1-globulins - 4%, alpha-2-globulins - 7%, beta-globulins - 10%, gamma globulins - 19%.

Echocardiography: the average pulmonary arterial pressure – 25 mm Hg. The left atrium is 3.8 cm. Left ventricular diastolic size of course is 5.0 cm. The systolic size is 3.0 cm. EF is 68%. The thickness of the posterior wall of the left ventricle is 2.0 sm. The thickness of the

IVS is 0.7 cm. The right ventricle is 2.4 cm. The anterior wall of the right ventricle - 0.3 cm.

Aortography: narrowing of the aortic isthmus.

Kidney ultrasound: no pathological changes.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 9

Patient N, 55 years old, a cameraman, turned to the family doctor at the polyclinic with complaints of headache in the parieto-occipital region in the morning, dizziness, stabbing heart pain, poor sleep, general weakness.

From the anamnesis it is known that the patient has been ill for 2 months.

On objective examination: satisfactory condition, increased nutrition, facial skin is hyperemic. Body temperature 36.7 ° C. Consciousness is clear. Active position. Subcutaneous adipose tissue of homogeneous consistency, there is no edema. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. In the lungs, vesicular breathing, no wheezing. Pulse - 90 in 1 min., Rhythmic, tense. BP on both arms is 180/100 mm Hg. The left border of the heart is 1.0 cm inward from the left mid-clavicular line, the right and upper are normal. Heart sounds at the top are muffled. P tone is accentuated on the aorta. On palpation, the abdomen is soft, painless. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

1. **Complete Blood Count:** RBC – 4,9x10^{12}/L, Hb –130 g/L, MCH – 27 pg/cell, WBC – 6,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 60%, lymphocytes – 30%, monocytes – 8%, eosinophil – 1%, PLT – 300,0x10^{9}/L, ESR – 8 mm/h.

2. General urine analysis: light yellow, acid reaction, complete transparency, beats. weight - 1023, no protein and sugar, watering can. - 0-2 in p / sp. er. - 1-2 in p / sp., No cylinders.

3.Urine analysis according to Zimnitsky: beats. weight from 1008 to 1027, daytime diuresis - 800.0 ml, nighttime diuresis - 500.0 ml.

4. Urine analysis according to Nechiporenko: in 1 ml of urine er. - 800, lake. - 1000, cylinders - 18.

5. Rehberg's test: glomerular filtration - 100 ml / min, tubular reabsorption - 98%.

6. Blood tests: creatinine - 0.088 mmol / L, cholesterol - 5.5 mmol / L, triglycerides - 1.5 mmol / L, beta-lipoproteins - 4.5 g / L, PTI - 100 units

7. Echocardiography: Left ventricular diastolic size is 6.0 cm. EF is 65%. The thickness of the posterior wall of the left ventricle is 2.0 sm.

8. Ultrasound of the kidneys - kidneys of normal size, the renal pelvis is not changed, calculus is not detected.

9. Radioisotope renography - the absorption and excretory functions of the kidneys are not impaired.

10. The fundus of the eye - some narrowing of the arteries.

11. Neurologist's consultation - functional disorder of the nervous system.

Questions:

1. What is the preliminary diagnosis?

2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?

4. Medical and labor expertise. Dispensary observation

Clinical case No. 10

Patient N, 37 years old, art director, turned to the family doctor at the polyclinic with complaints of severe chest pains, severe dyspnea of a mixed nature. She suddenly lost consciousness.

From the anamnesis it is known that the patient has been observed by a surgeon for 12 years with deep vein thrombosis of the lower extremities, accompanied by thrombophlebitis; and also the patient has been suffering from grade 2 hypertension for 20 years. Heredity is burdened by the mother: hypertension, grade 3, very high risk. Bad habits: smoking 1 pack of cigarettes per day.

On objective examination: the general condition is severe, consciousness is absent, there is a blue-purple cyanosis of the upper body. Shallow breathing up to 50 per minute. On auscultation, breathing in the right half of the chest is sharply weakened, single dry wheezing, in the lower parts of the lower parts of the small bubbling rales. The cervical veins are swollen, the pulse is threadlike 100 per minute. BP - 90/40 mm Hg. Dull heart sounds, splitting of the second tone over the pulmonary artery. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. The abdomen is enlarged, palpation is not available. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

Complete Blood Count(Cito)**:** RBC – $4,5x10^{12}$/L, Hb –135 g/L, MCH – 27 pg/cell, WBC – $9,5x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 65%, lymphocytes – 21%, monocytes – 10%, eosinophil – 2%, PLT – $214,0x10^{9}$/L, ESR – 15 mm/h.

Urinalysis (Cito): straw yellow, sour reaction, beats. weight - 1016, leukocytes - 1-2 in field of vision, ep. cells - 1-2 in p / sp.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Chapter 4. STANDARD OF ANSWERS FOR THE CARDIOLOGY SECTION

Clinical case No.1

1. Formulate a preliminary diagnosis. Coronary heart disease., Stable exertional angina, FC II, postinfarction cardiosclerosis and circulatory failure.

Concomitant diagnosis: chronic lumbosacral radiculitis in remission

2. Assign additional research methods.

Laboratory tests

Basic examination in patients with coronary artery disease includes standard biochemical tests: troponin T or I level, complete blood count with determination of hemoglobin and leukocyte count, glycated hemoglobin and plasma glucose fasting, serum creatinine and creatinine clearance, blood lipid, thyroid function, liver function tests, creatinine phosphokinase, brain natriuretic peptide type B (BNP) or GC-B, peptide hormone and its precursor (BNP / NT-proBNP).

Instrumental studies

Electrocardiogram (ECG) at rest and / or during or immediately after an attack of chest pain, outpatient ECG monitoring (in patients with suspected arrhythmia and vasospastic angina), echocardiography at rest to identify violations of regional contractility, determination of ejection fractions and assessment diastolic function of the left ventricle, ultrasound examination of the carotid arteries to determine the thickness of the intima media and / or detection of atherosclerotic plaques, chest X-ray.

Studies according to indications

Non-invasive methods for diagnosing ischemia:

1) ECG stress test with exercise;

2) stress echocardiogram with exercise or using dobutamine or a vasodilator;

3) exercise or vasodilator positron emission computed tomography;

4) magnetic resonance imaging (MRI) of the heart with dobutamine and vasodilator;

5) Hybrid imaging (single-photon emission computed tomography) of the heart.

Non-invasive methods of assessing the anatomy of the coronary arteries

Computed tomography of the coronary arteries is performed without the introduction of contrast medium or after intravenous administration of iodine-containing contrast.

Invasive coronary angiography

Invasive coronary angiography is performed to determine the feasibility of revascularization.

3. What is the treatment tactics?

1. Identification and treatment of concomitant diseases that can provoke or worsen the course of ischemic heart disease.

2. Lifestyle changes, correction of risk factors.

3. To give up smoking.

4. Blood pressure control. The goal is to lower blood pressure <140/90 mm Hg. Art. or BP <140/85 mm Hg. Art. with Chronic kidney disease or diabetes mellitus, in patients> 80 years old <150/80 mm Hg. Art.

If a patient with coronary artery disease has dyslipidemia, this significantly increases the risk of death, and in such cases, correction of the blood lipid spectrum should be carried out more vigorously than in people without signs of coronary artery disease, achieving a decrease in total cholesterol levels below 5.2 mmol / L, LDL <1.8 mmol / L, triglycerides <1.7 mmol / L.

Stopping an attack of stable angina pectoris:

1) stop physical activity;

2) take a sitting position with lowered legs;

3) take 1 nitroglycerin tablet sublingually (500 mcg) or 1-2 doses (1.25-2.5 mg) of isosorbide dinitrate aerosol;

4) if ineffective, repeat nitroglycerin intake every 5 minutes until a maximum dose of 1.2 mg is reached for 15 minutes. If there is no effect from 3 tablets, it is necessary to arrange a call to a doctor or an ambulance team.

Medication. Three classes of drugs are used: nitrates, β-blockers, and calcium antagonists. The goal of antianginal therapy is to reduce myocardial oxygen demand and / or increase myocardial perfusion. Low-dose aspirin is recommended for all patients with stable coronary artery disease. Clopidagrel is recommended as an alternative drug in cases of aspirin intolerance. Statins are recommended for all patients with stable coronary artery disease. Angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers are indicated in the presence of heart failure, arterial hypertension and diabetes mellitus.

Other anti-ischemic drugs (Ivabradine. The initial dose is 5 mg 2 times a day. Nicorandil. It is used in a dose of 20 mg 2 times a day Trimetazidine It is used in a dose of 35 mg 2 times a day Ranolosin Starts 500 mg 2 times a day Allopurinol It is used in tablets 600 mg a day Molsidomin It is used 8 mg 2 times a day { {1}} Lipid-lowering therapy

All patients, in the absence of contraindications, should be prescribed statins.

If the target level of LDL cholesterol is not achieved, combination therapy of a statin with ezetimibe is necessary. LDL apheresis or new lipid-lowering drugs (PCSK9 inhibitors).

4. Medical and labor expertise. Dispensary observation.

Temporary disability. Angina pectoris: first-onset 10–12 days; stress II FC - 10-15 days; III FC - 20-30 days; IV FC - up to 3–3.5 months; unstable angina pectoris - 25-30 days, acute coronary insufficiency - 40-50 days. MI - small focal without complications 60–80 days, with complications 3–3.5 months, large focal - 4–5 months. CH I Art. - 14-21 days, II Art. - 28-42 days, III Art. - 90-120 days. Heart rhythm disturbances - high-grade ventricular extrasystoles for

7-10 days; complete atrioventricular block with an attack of Morgagni - Adams - Stokes 14–20 days; incomplete atrioventricular block II stage. 7-10 days; paroxysmal supraventricular tachycardia 5-10 days; paroxysm of atrial fibrillation (flutter) of the atria 7-10 days; implantation of pacemaker - 2 months.

Contraindicated types and working conditions. Work associated with constant or episodic significant physical (the energy intensity of the pile is more than 4-5 kcal / min) and neuropsychic stress; stay at altitude; exposure to vascular and neurotropic poisons; in unfavorable microclimatic and extreme conditions. Absolutely contraindicated for patients with pacemaker is work associated with a forced position of the body, the prescribed pace; exposure to strong static charges, magnetic and microwave fields, exposure to electrolytes, strong induction of thermal and light radiation from stoves and radiators: pronounced general and local vibration, as well as potential danger to others and the for the occurred violations of the EKS.

Permanent disability. Indications for referral to the MSEC bureau: Angina pectoris III and IV FC; severe dysfunctions of the cardiovascular system after MI; severe and moderate heart rhythm disturbances, taking into account the underlying disease that caused their occurrence, the patient's absolute dependence on the pacemaker; SN II, III Art., The presence of contraindications in the nature and conditions of work.

III group of disability is established in connection with the limitation of the ability to self-service, movement, work activity I Art. in the following cases: exertional angina II (less often - III) FC, CH I or II A st. (II FC according to NYHA); transferred small or large-focal myocardial infarction without severe complications in the acute and subacute stages, or the development in the acute period of transient atrioventricular blockade, extrasystole not higher than grade 3, HF I st. by Killip, natural ECG dynamics; completion of an effective phased rehabilitation program; moderate deviations in ECG monitoring in conditions of everyday activity, mild NDS; moderate decrease in exercise tolerance (75 W / min) and coronary reserve according to VEM; a moderate increase in the size of the heart cavities in systole

and diastole according to echocardiography, moderate disorders of the general (EF 45%) and regional (papillary muscle dysfunction, limited zones of LV myocardial hypokinesia).After the pacemaker implantation and the stable course of the underlying disease, the patients are recognized as invalids of the III group in the case of HF II – III according to NYHA, cardiophobic reaction, angina pectoris II FC, the development of a pacemaker syndrome with moderate dysfunctions of the cardiovascular and central nervous system. Patients have a need to limit the amount of work in their previous profession or a loss of professional suitability due to the effect on the body of pronounced physical stress, unfavorable microclimatic conditions while maintaining the ability to learn to acquire an uncontradicted profession.

II group of disability is established in connection with the limitation of the ability to self-service, movement, work II Art. in the following cases: angina pectoris III FC, postponed large-focal (transmural) MI with severe complications in the acute and subacute stages (paroxysmal tachycardia, atrioventricular block II stage - III stage, extrasystole of high gradations, heart failure II – III class according to Killip, acute aneurysm of the heart, pericarditis, etc.), delayed ECG dynamics, significantly pronounced deviations in monitoring the ECG in conditions of daily everyday activity; NDS of medium degree; marked decrease in exercise tolerance (50 W / min) and coronary reserve, according to VEM; a significant increase in heart cavities in systole and diastole by echocardiography, a pronounced violation of the total (EF 35%) and regional (dysfunction of papillary.

Clinical case No. 2

1. Formulate a preliminary diagnosis. Coronary heart disease: acute Q-myocardial infarction in the region of the lower wall. The diagnosis was made on the basis of complaints of pain in the epigastric region, accompanied by weakness, sweating, nausea; anamnesis data: after taking Nitroglycerin under the tongue, the pain decreased; the data of clinical and laboratory research: on the taken ECG, a deep Q wave was revealed in the III and aVF leads; the ST segment in the

same leads is raised above the isoline, arcuate, turns into a negative T wave.

2. Assign additional research methods.

Basic examination in patients with coronary artery disease includes standard biochemical tests: troponin T or I, complete blood count with hemoglobin and leukocyte counts, glycated hemoglobin and fasting plasma glucose, serum creatinine levels, and assessment of renal function by creatinine clearance , blood lipid spectrum, assessment of thyroid function, hepatic function tests, creatinine phosphokinase level, brain natriuretic peptide type B (BNP) or GC-B level, peptide hormone and its precursor (BNP / NT-proBNP).

Instrumental studies

Electrocardiogram (ECG) at rest and / or during or immediately after an attack of chest pain, outpatient ECG monitoring (in patients with suspected arrhythmia and vasospastic angina), echocardiography at rest to identify violations of regional contractility, determination of ejection fractions and assessment of diastolic function of the left ventricle, ultrasound examination of sleep arteries to determine the thickness of the intima media and / or the detection of atherosclerotic plaques, chest x-ray.

Studies according to indications

Non-invasive methods for the diagnosis of ischemia:

1) ECG stress test with exercise;

2) stress echocardiogram with exercise or using dobutamine or a vasodilator;

3) Exercise or vasodilator positron emission computed tomography;

4) magnetic resonance imaging (MRI) of the heart with dobutamine and vasodilator;

5) Hybrid imaging (single-photon emission computed tomography) of the heart.

Non-invasive methods for assessing the anatomy of the coronary arteries

Computed tomography of the coronary arteries is performed without the introduction of a contrast agent or after intravenous administration of iodine-containing contrast.

Invasive coronary angiography

Invasive coronary angiography is performed to determine if.

3. What is the treatment tactics?

There are mainly three classes of drugs used: nitrates, β-blockers and calcium antagonists. The goal of antianginal therapy is to reduce myocardial oxygen demand and / or increase myocardial perfusion. Low-dose aspirin is recommended for all patients with stable coronary artery disease. Clopidagrel is recommended as an alternative drug in cases of aspirin intolerance. Statins are recommended for all patients with stable coronary artery disease. Angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers are indicated in the presence of heart failure, arterial hypertension and diabetes mellitus.

In some patients with stable angina, one sublingual nitroglycerin is sufficient, but if attacks occur more than 2-3 times a week, a β-blocker or calcium antagonist is added. If the attacks continue after that, add prolonged nitrates. If necessary, use all three groups of drugs (nitrates, β-blockers and calcium antagonists).

In combination therapy, the characteristics of each drug should be taken into account. The combination of dihydroperidine calcium antagonists (nifedipine) and prolonged nitrates (β-blockers) is not an optimal combination, since both groups of drugs have a vasodilatory effect. In patients with severe left ventricular dysfunction, sinus bradycardia, atrioventricular conduction disorders, combination therapy with β-blockers and calcium antagonists should be used cautiously or not at all.

The combination of prolonged nitrates with calcium antagonists of the dehydroperidine series is optimal in the treatment of patients with atrioventricular conduction disorders. When combining β-blockers, especially large doses, with calcium antagonists, their negative inotropic effect should be taken into account.

When choosing β-blockers or calcium antagonists as the first drug, their clinical features should be guided.

Calcium antagonists should be preferred in the presence of certain concomitant conditions:

1) obstructive pulmonary disease;

2) sinus bradycardia and severe atrioventricular conduction disorders;

3) variant angina pectoris - Prinzmetal's angina;

4) severe peripheral arterial disease.

Lipid-lowering therapy

All patients, in the absence of contraindications, should be prescribed statins, with hyperglyceridemia - fenofibrate or omega-3 polyunsaturated fatty acids. Fenofibrate is prescribed at 250-500 mg per day, omega-3-polyunsaturated fatty acids - 1-2 g per day.

If the target level of LDL cholesterol is not achieved, a combination therapy of a statin with ezetimibe is required. In the absence of the effect of combination therapy, it is advisable to include LDL-apheresis in therapy or prescribe new lipid-lowering drugs (PCSK9 inhibitors).

4. Medical and labor expertise. Dispensary observation. Examination of the ability to work. If myocardial infarction is not Q-forming and uncomplicated (angina pectoris not more than I and Chronic heart failure not more than I stage), employment is indicated by a clinical expert commission. If MI is complicated (angina pectoris not more than II and Chronic heart failure not more than II stage) - also employment on the recommendation of the clinical expert commission, in case of loss of qualifications, send to the Medical Social Expert Commission to determine the disability group. If myocardial infarction is Q-forming uncomplicated (angina pectoris no more than I and Chronic heart failure no more than stage I), then persons of physical labor and / or a greater volume of industrial activity should be sent to the Medical and Social Expert Commission

to establish a disability group. If myocardial infarction is complicated (angina pectoris more than I-II and Chronic heart failure no

more than stage II), then regardless of the specialty, patients are also sent to the Medical and Social Expert Commission to establish a group of disability. Spa treatment. After suffering an MI more than 1 year ago without attacks of angina pectoris or with rare bouts of tension without disturbing the rhythm and signs of Heart Failure of no more than 1 FC, treatment is possible both in local cardiological sanatoriums and in distant climatic resorts (excluding mountain resorts). With a higher FC of angina pectoris and Heart Failure, treatment is indicated only in local sanatoriums.

Prevention. The main therapeutic and recreational activities: recommendations for a healthy lifestyle. Hardening procedures. Remediation of foci of chronic infection. Patients are under the supervision of a cardiologist, in his absence - by a local doctor.

Clinical case No. 3

1. Formulate a preliminary diagnosis. Coronary heart disease: myocardial infarction.

2. Assign additional research methods

Basic examination in patients with coronary artery disease includes standard biochemical tests: troponin T or I level, complete blood count with hemoglobin and leukocyte counts, glycated hemoglobin and fasting plasma glucose, serum creatinine level and assessment of renal function by creatinine clearance, blood lipid spectrum, assessment of thyroid function, hepatic function tests, creatinine phosphokinase level, brain natriuretic peptide type B (BNP) or GC-B level, peptide hormone and its precursor (BNP / NT-proBNP).

Instrumental studies

Electrocardiogram (ECG) at rest and / or during or immediately after an attack of chest pain, outpatient ECG monitoring (in patients with suspected arrhythmia and vasospastic angina), echocardiography at rest to identify violations of regional contractility, determination of ejection fractions and assessment of diastolic function ventricle, ultrasound examination of the carotid arteries to determine the thickness of

the intima media and / or detection of atherosclerotic plaques, chest x-ray.

Studies according to indications

Non-invasive methods for the diagnosis of ischemia: 1) ECG stress test with exercise;

2) stress echocardiogram with exercise or using dobutamine or a vasodilator;

3) exercise or vasodilator positron emission computed tomography;

4) magnetic resonance imaging (MRI) of the heart with dobutamine and vasodilator;

5) Hybrid imaging (single-photon emission computed tomography) of the heart.

Non-invasive methods of assessing the anatomy of the coronary arteries

Computed tomography of the coronary arteries is performed without the introduction of contrast medium or after intravenous administration of iodine-containing contrast.

Invasive coronary angiography

Invasive coronary angiography is performed to determine if.

3. What is the treatment tactics?

Treatment plan: relief of pain syndrome - narcotic analgesics, antipsychotics, fibrinolytic and anticoagulant therapy, prevention of rhythm disturbances, treatment of complications.

There are mainly three classes of drugs used: nitrates, β-blockers and calcium antagonists. The goal of antianginal therapy is to reduce myocardial oxygen demand and / or increase myocardial perfusion. Low-dose aspirin is recommended for all patients with stable coronary artery disease. Clopidagrel is recommended as an alternative drug in cases of aspirin intolerance. Statins are recommended for all patients with stable coronary artery disease. Angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers are indicated in the presence of heart failure, arterial hypertension and diabetes mellitus.

In combination therapy, the characteristics of each drug should be taken into account. The combination of dihydroperidine calcium antagonists (nifedipine) and prolonged nitrates (β-blockers) is not an optimal combination, since both groups of drugs have a vasodilatory effect. In patients with severe left ventricular dysfunction, sinus bradycardia, atrioventricular conduction disorders, combination therapy with β-blockers and calcium antagonists should be used with caution or not at all.

The combination of prolonged nitrates with calcium antagonists of the dehydroperidine series is optimal in the treatment of patients with disorders atrioventricular conduction. When combining β-blockers, especially large doses, with calcium antagonists, their negative inotropic effect should be taken into account.

When choosing β-blockers or calcium antagonists as the first drug, their clinical features should be guided.

Calcium antagonists should be preferred in the presence of certain concomitant conditions:

1) obstructive pulmonary disease;

2) sinus bradycardia and severe atrioventricular conduction disorders;

3) variant angina pectoris - Prinzmetal's angina;

4) severe peripheral arterial disease.

Lipid-lowering therapy

All patients, in the absence of contraindications, should be prescribed statins, with hyperglyceridemia - fenofibrate or omega-3 polyunsaturated fatty acids. Fenofibrate is prescribed at 250-500 mg per day, omega-3-polyunsaturated fatty acids - 1-2 g per day.

If the target level of LDL cholesterol is not achieved, a combination therapy of a statin with ezetimibe is required. In the absence of the effect of combination therapy, it is advisable to include LDL-apheresis in therapy or prescribe new lipid-lowering drugs (PCSK9 inhibitors).

4. Medical and labor expertise. Dispensary observation. Examination of the ability to work. If myocardial infarction is not Q-forming and uncomplicated (angina pectoris not more than I and

Chronic heart failure not more than I stage), employment is indicated by a clinical expert commission. If MI is complicated (angina pectoris not more than II and Chronic heart failure not more than II stage) - also employment on the recommendation of the clinical expert commission, in case of loss of qualifications, send it to the Medical and Social Expert Commission to determine the disability group. If myocardial infarction is Q-forming uncomplicated (angina pectoris not more than I and Chronic heart failure not more than I stage), then persons of physical labor and / or a greater volume of industrial activity should be sent to the Medical and Social Expert Commission to establish a disability group. If myocardial infarction is complicated (angina pectoris more than I-II and Chronic heart failure no more than stage II), then regardless of the specialty, patients are also sent to the Medical and Social Expert Commission to establish a disability group. Spa treatment. After suffering a myocardial infarction more than 1 year ago without angina attacks or with rare bouts of tension without disturbing the rhythm and signs of heart failure, no more than 1 FC can be treated both in local cardiological sanatoriums and in distant climatic resorts (excluding mountain resorts). With a higher FC of angina pectoris and heart failure, treatment is indicated only in local sanatoriums.

Clinical case No. 4

1. Make a preliminary diagnosis. Coronary heart disease: rhythm disturbance by the type of Premature heart beats (possibly supraventricular).

2. Assign additional research methods

Biochemical tests: troponin T or I, complete blood count with hemoglobin and leukocyte counts, glycated hemoglobin and fasting plasma glucose, serum creatinine and renal function assessment by creatinine clearance, lipid blood spectrum, assessment of thyroid function, hepatic function tests, creatinine phosphokinase level, brain natriuretic peptide type B (BNP) or GC-B level, peptide hormone and its precursor (BNP / NT-proBNP).

1 Instrumental studies

Electrocardiogram (ECG) at rest and / or during or immediately after an attack of chest pain, outpatient ECG monitoring (in patients with suspected arrhythmia and vasospastic angina), echocardiography at rest for identification of violations of regional contractility, determination of ejection fractions and assessment of diastolic function of the left ventricle, ultrasound examination of the carotid arteries to determine the thickness of the intima-media and / or the detection of atherosclerotic plaques, chest x-ray.

Studies according to indications

Non-invasive methods for the diagnosis of ischemia:

1) ECG- exercise stress test;

2) stress echocardiogram with exercise or using dobutamine or a vasodilator;

3) exercise or vasodilator positron emission computed tomography;

4) magnetic resonance imaging (MRI) of the heart with dobutamine and vasodilator;

5) Hybrid imaging (single-photon emission computed tomography) of the heart.

Non-invasive methods for assessing the anatomy of the coronary arteries

Computed tomography of the coronary arteries is performed without the introduction of a contrast agent or after intravenous administration of iodine-containing contrast.

Invasive coronary angiography

Invasive coronary angiography is performed to determine if revascularization is possible.

3. What is the treatment tactics?

The goals of treatment are to reduce symptoms associated with arrhythmia and to prevent possible severe complications associated with atrial fibrillation.

Methods for preventing complications associated with atrial fibrillation include antithrombotic therapy, ventricular rate control, and adequate management of concomitant heart disease. These treatments are capable of providing sufficient symptomatic effect, but in some cases, heart rate control measures such as cardioversion, antiarrhythmic therapy, or ablation may be required to reduce symptoms.

Stroke and thromboembolic risk stratification. The identification of clinical factors associated with the risk of stroke has led to the development of various scales for assessing the likelihood of stroke. The new scale for assessing the risk of stroke is called CHA2DS2-VASc (Table 14).

Table 14 - CHA2DS2-VASc scale for nonvalvular atrial fibrillation

Risk factors Points

Congestive heart failure / LV-dysfunction

(heart failure / LV dysfunction) 1

Hypertension 1

Aged> 75 years 2

Diabetes mellitus 1

Stroke / TE (stroke / thromboembolism) 2

Vascular disease (prior MI, PAD, aortic plaque) (vascular diseases - previous AMI, peripheral arterial atherosclerosis, aortic atherosclerosis) 1

Aged 65–74 years (age 65–74 years) 1

Sex category (female) 1

According to the new CHA2DS2-VASc scale, all risk factors were conditionally divided into two categories: “large” and “clinically significant not large “.

“Large” RFs include: history of stroke / Transient ischemic attack or systemic thromboembolism and age ≥ 75 years. Each “big” factor is worth 2 points. All other risk factors were called “not large clinically significant” (previously they were called medium risk factors). These include the presence of heart failure (especially moderate or severe left ventricular systolic dysfunction, characterized by a decrease in

left ventricular ejection fraction ≤ 40%), arterial hypertension, diabetes mellitus, as well as a number of factors, the evidence of a role for which has emerged recently, namely female gender, age 65–74 years and the presence of vascular disease (myocardial infarction, the presence of atherosclerotic plaques in the aorta, and peripheral arterial disease). The likelihood of stroke / systemic thromboembolism progressively increases with the number of Risk Factors, therefore, if at least two of these factors are present, anticoagulant therapy is warranted.

According to the principles of evidence-based medicine, the drugs of choice for the prevention of stroke in atrial fibrillation are vitamin antagonists K. Of the vitamin K antagonists, preference should be given to coumarin derivatives (warfarin), which, in comparison with indandione derivatives, have advantages in pharmacokinetics, providing a predictable and more stable anticoagulant effect with prolonged use. The use of anticoagulants is recommended for all patients with MP with a CHA2DS2-VASc score of 2 or more.When deciding on the appointment of vitamin K antagonists, the risk of bleeding should also be assessed on the HAS-BLED scale, and a careful search for possible contraindications should be carried out.

HAS-BLED bleeding risk scale

Letter Clinical characteristics Number of points

H Arterial hypertension 1

A Liver or kidney dysfunction (1 point each) 1 or 2

S Stroke 1

B Bleeding 1

L Labile INR 1

E Age> 65 years 1

D Taking certain drugs or alcohol (1 point each) 1 or 2

Maximum 9 points

The HAS-BLED scale was studied in a number of studies and correlates well with the risk of intracranial bleeding. It should be noted that the frequency of intracranial bleeding in patients receiving acetylsalicylic acid, with the same number of points on the HAS-BLED scale, was the same as in those taking warfarin.

Bleeding risk assessment is recommended in all patients with Atrial Fibrillation. Patients with a HAS-BLED score of ≥ 3 require careful approach, regular follow-up, and interventions to correct potentially reversible bleeding risk factors.

The HAS-BLED score itself should not be used to discourage oral anticoagulant therapy, but it allows clinicians to reasonably assess the risk of bleeding and, more importantly, makes them think about corrected risk factors for bleeding: for example, uncontrolled arterial.

4. Medical and labor expertise. Dispensary observation. Examination of the ability to work. If myocardial infarction is not Q-forming and uncomplicated (angina pectoris not more than I and Chronic heart failure not more than I stage), employment is indicated by a clinical expert commission. If MI is complicated (angina pectoris not more than II and Chronic heart failure not more than II stage) - also employment on the recommendation of the clinical expert commission, in case of loss of qualifications, send to the Medical Social Expert Commission to determine the disability group. If myocardial infarction is Q-forming uncomplicated (angina pectoris no more than I and Chronic heart failure no more than stage I), then persons of physical labor and / or a greater volume of industrial activity should be sent to the Medical and Social Expert Commission to establish a disability group. If myocardial infarction is complicated (angina pectoris more than I-II and Chronic heart failure no more than stage II), then regardless of the specialty, patients are also sent to the Medical and Social Expert Commission to establish a group of disability. Spa treatment. After suffering a myocardial infarction more than 1 year ago without angina attacks or with rare bouts of tension without disturbing the rhythm and signs of heart failure no more than 1 FC, treatment is possible both in local cardiological sanatoriums and in distant climatic resorts (excluding mountain resorts). With a higher FC of angina pectoris and heart failure, treatment is indicated only in local sanatoriums.

Dispensary observation. The diagnosis of postinfarction cardiosclerosis is established 2 months after the onset of myocardial infarction. It is during this period that the formation of cicatricial connective

tissue ends at the site of cardiac muscle necrosis. Patients who have had myocardial infarction, the first year should be observed by a cardiologist in the conditions of a cardiological dispensary or polyclinic, it is desirable to follow up for subsequent years. Observation frequency and examination of patients with myocardial infarction at the outpatient stage of rehabilitation. At the first visit of the patient to the doctor, an outpatient card is filled out, a plan for the management and treatment of the patient is drawn up, an discharge summary and a plan of dispensary observation are written before discharge for work. II period of outpatient treatment, the patient must visit the doctor once every 7-10 days, up to discharge to work. Then after the 1st, 2nd week and the end of the first month of work. Then 2 times a month and the first six months, in the next six months - monthly. Second year - once a quarter. At each visit to the patient, an ECG is taken. An exercise test (treadmill, VEM, CPES) is performed after 3 months of MI development (in some clinics in patients with uncomplicated heart attack at the end of the 1st month of treatment), then before discharge to work and / or when referral to medical and social examination. Then, at least once a year. Echo-CG: upon arrival from a cardiological sanatorium, before discharge for work and then once a year with Q-forming MI, with EF <35 or with LV dysfunction - once every 6 months, Holter ECG monitoring: after arrival from the sanatorium, before discharge to work and directions to MSEC, then once every 6 months. A general analysis of blood, urine, blood glucose is examined before discharge for work and / or when sent to MSEC, then once every 6 months in the 1st year, and then at least once a year, ACT and ALT 2 times a year (if taking statins). Study of the lipid profile: TC, LDL, HDL and TG 3 months after the start of anti-sclerotic therapy, then every 6 months. Other analyzes are done according to indications.

Clinical case No. 5

1. Formulate a preliminary diagnosis. Hypertension, second stage.

2. Assign additional research methods.

Laboratory research methods: general analysis of blood and urine; study of glucose in blood plasma (on an empty stomach); study of total cholesterol, high density lipoprotein cholesterol (HDL cholesterol), low density lipoprotein cholesterol (LDL cholesterol), triglycerides (TG); study of potassium, sodium in blood serum.

Blood creatinine clearance (ml / min), glomerular filtration rate in ml / min / 1.73 m2. A decrease in creatinine clearance <60 ml / min or GFR <60 ml / min / 1.73 m2 indicates impaired renal function.

The concentration of uric acid in the blood, since hyperuricemia is often observed in hypertension, including in patients with MS, diabetes mellitus, and is an independent RF of kidney damage.

All patients with hypertension are advised to determine the presence of protein in the urine in the morning or daily portion. If the test result for proteinuria is negative and the risk of kidney damage is high, especially in patients with MS, diabetes, it is recommended to use quantitative methods to detect MAU.

Microscopy of urinary sediment is recommended for the detection of erythrocytes, leukocytes, epithelial cells, casts, crystalline and amorphous salts, the study of aspartate aminotransferase (AST), alanine aminotransferase (ALT).

For the detection of impaired glucose tolerance and the diagnosis of diabetes it is recommended to perform an oral glucose tolerance test and / or the determination of glycated hemoglobin (HbA1c) - with a plasma glucose level ≥ 5.6 mmol / l (100 mg / dl).

Instrumental studies

Electrocardiography (ECG) is recommended for all patients with hypertension to detect left ventricular hypertrophy. Left ventricular hypertrophy is characterized by the Sokolov-Lyon index SV1 + RV5–6> 35 mm; Cornell index (RAVL + SV3) ≥ 20 mm - for women, (RAVL + SV3) ≥ 28 mm - for men; Cornell product (RAVL + SV5) mm × QRS ms> 2440 mm × ms), cardiac arrhythmias and conduction disturbances and other cardiac lesions.

Exercise ECG test (physical, pharmacological, transesophageal electrical stimulation) is recommended for patients with cardiac arrhythmias and conduction disturbances (history, physical examination,

Holter ECG monitoring, or if exercise-induced arrhythmias are suspected). Echocardiography is recommended to clarify the presence and severity of LVH, dilatation of the left atrium (LA) and other heart lesions. Distinguish between concentric and eccentric LVH, prognostically more unfavorable is concentric LVH. If you suspect the presence of myocardial ischemia, it is recommended to conduct an ECG test with stress (physical, pharmacological, transesophageal electrical stimulation). If the result is positive or questionable, an imaging stress test (stress echocardiography, stress MRI, or myocardial stress scintigraphy) is recommended.

Duplex scanning of the brachiocephalic arteries is recommended to detect vascular wall thickening (BMI ≥ 0.9 mm) or the presence of atherosclerotic plaque, especially in men over 40, women over 50, and in patients with a high overall cardiovascular risk.

Determination of the pulse wave velocity is recommended for determining the stiffness of the arterial wall. The risk of CV development increases with a pulse wave speed of more than 10 m / s.

Ankle-brachial index (ABI) is recommended for suspected peripheral atherosclerosis. A decrease in its value less than 0.9 indicates an obliterating lesion of the arteries of the lower extremities and can be regarded as an indirect sign of severe atherosclerosis.

Ultrasonography of the kidneys is recommended to assess their size, structure, and congenital abnormalities.

Examination of the fundus (hemorrhages, exudates, papilla edema) is recommended for patients with refractory hypertension, as well as for patients with severe hypertension and high total CV risk.

A chest x-ray is recommended to detect left ventricular dilatation and signs of pulmonary congestion.

Out-of-office BP measurement: SCAD and / or ABP is recommended to confirm the diagnosis of hypertension, establish the type of hypertension, identify episodes of hypotension and predict cardiovascular risk as accurately as possible. The patient or his relatives can measure blood pressure on their own using automatic or semi-automatic “household” blood pressure meters at home. This method,

which has become widespread in recent years, is referred to as the SCUD method.

24-hour blood pressure monitoring (ABPM).

3. What is the treatment tactics?

Half-bed mode

Diet No. 10, restriction of sodium chloride to 5-8 g / day

Calcium ion antagonists: verapamil, nifedipine

ACE inhibitors: enalapril, captopril

B-blockers: atenolol, propranolol

Diuretics: veroshpiron, hypothiazide

Combined drugs: caposide, logimax

Physiotherapy exercises. Herbal medicine: green tea, valerian, motherwort

The prognosis is favorable with a stable course and low blood pressure, no complications

Prevention:

- work and rest;
- normalization of sleep;
- rational nutrition;
- elimination of the influence of stress, mental self-regulation;
- prohibition of smoking and alcohol consumption;
- dispensary observation of patients with essential hypertension;
- maintaining blood pressure at normal (close to those) values using antihypertensive drugs (monotherapy or combination treatment).

5. The technique of measuring blood pressure according to the algorithm of action.

4. Medical and labor expertise. Dispensary observation.

In case of a mild crisis in stage II of hypertension, the duration of temporary disability is 7-10 days, in severe crises and exacerbations, the patient is released from work for 3-4 weeks. It has been noticed that with compensated stage III hypertension in a patient working in specially created conditions, long-term dismissal from work aggravates the clinical and work prognosis.

With stage I hypertension, proceeding without crises, there is no need to issue a certificate of incapacity for work. Most of the patients are able to work and only need to create facilitated working conditions. Persons with high qualifications continue to work even with significant neuropsychic stress, if the regime of work and rest is observed. Contraindicated are works associated with significant physical exertion, climbing to a height, in hot shops and with sharp fluctuations in air temperature, during the night shift, conveyor types of work and work in contact with vascular poisons (lead, benzene, carbon monoxide, nicotine), etc. In the absence of conditions for rational employment, III group of disability is established for 1 year to acquire a new profession.

Persistent disability. In the case of an exacerbation of stage II hypertension (blood pressure higher than the usual numbers) with a deterioration in the general condition, patients need to be released from work for a period of at least 3-4 weeks. The ability to work of such patients is significantly reduced, most of them are of limited working capacity (disabled persons of group III). At this stage, all those types and working conditions are excluded that are contraindicated in stage I of hypertension. Patients should be transferred from piecework to hourly wages; the duration of the working day should not exceed 6 hours. If changes in the cardiovascular system prevail, then you can continue to work associated with only minor physical stress. With a predominant lesion of the vessels of the kidneys, work in a damp, cold room is contraindicated. With pronounced cerebral symptoms, work is contraindicated even with moderate neuropsychic stress. If the patient's employment in these cases is associated with a decrease in qualifications, he is assigned a III disability group.

Patients with stage III hypertension lose their professional ability to work and are disabled in group II. At the stage of compensation, some patients are allowed to work in specially created conditions and at home.

Acute respiratory viral diseases, influenza, tonsillitis and other concomitant diseases with hypertension are more severe, the periods of temporary disability are lengthened.

Dispensary observation. Patients with stage I hypertension, as well as with stable mild and moderate stage II hypertension, are registered with a general practitioner. Patients with severe stage II hypertension, as well as patients with hypertension resistant to drug treatment, remain under the supervision of a cardiologist of the polyclinic. All persons who have come to the clinic for the first time for any reason should measure blood pressure, involving nursing staff. A specially trained nurse in the office fills out a questionnaire for the diagnosis of hypertension in a polyclinic, measures blood pressure twice and writes the numbers into an outpatient card. After repeated measurements of blood pressure, the nurse gives advice on non-drug therapy and refers the patient to the doctor.

In pregnancy, hypertension is the main cause of premature birth, perinatal and maternal mortality (20-30% of cases), usually occurring at a later date (later than 20 weeks) and disappearing within 6 weeks after delivery. If hypertension develops early and persists longer than 6 weeks after childbirth, then the cause of the disease is more often kidney disease, and therefore, during repeated pregnancy, such patients require especially careful monitoring.

Modern technology of medical care for patients with hypertension also includes rational medical documentation. For patients with stable hypertension who must receive antihypertensive drugs for life, a dispensary observation sheet is filled out, which is a formalized insert in an outpatient card. It dynamically presents the results of drug therapy, taking into account the patient's complaints, the value of blood pressure and pulse, contains information about the side effects of drugs in each case. The same list is proposed to be kept by a patient with hypertension at home. The introduction of such sheets into the practice of the therapist and cardiologist of the polyclinic makes it possible to reduce the number of entries in the 025 / u form, free up time for a more thorough examination of the patient and promptly manage the pharmacotherapy of hypertension.

Clinical case No. 6

1. What is the preliminary diagnosis? Coronary heart disease: large-focal myocardial infarction. Violation of the rhythm of the type of extrasystole (Premature heart beats**).**

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory tests

Basic examination in patients with coronary artery disease includes standard biochemical tests: troponin T or I, complete blood count with hemoglobin and leukocyte counts, glycated hemoglobin and plasma glucose fasting, serum creatinine and creatinine clearance, blood lipid, thyroid function, liver function tests, creatinine phosphokinase, brain natriuretic peptide type B (BNP) or GC-B, peptide hormone and its precursor (BNP / NT-proBNP).

Instrumental studies

Electrocardiogram (ECG) at rest and / or during or immediately after an attack of chest pain, outpatient ECG monitoring (in patients with suspected arrhythmia and vasospastic angina), echocardiography at rest to identify violations of regional contractility, determination of ejection fractions and left ventricular diastolic function, ultrasound examination of the carotid arteries to determine the thickness of intima media and / or detection of atherosclerotic plaques, chest x-ray.

Studies according to indications

Non-invasive methods for diagnosing ischemia:

1) ECG stress test with exercise;

2) stress echocardiogram with exercise or using dobutamine or a vasodilator;

3) exercise or vasodilator positron emission computed tomography;

4) magnetic resonance imaging (MRI) of the heart with dobutamine and vasodilator;

5) Hybrid imaging (single-photon emission computed tomography) of the heart.

Non-invasive methods for assessing the anatomy of the coronary arteries

Computed tomography of the coronary arteries is performed without the introduction of a contrast agent or after intravenous administration of iodine-containing contrast. Invasive coronary angiography. Invasive coronary angiography is performed to determine if revascularization is possible.

3. What is the patient's management?

Medication. Currently, three classes of drugs are mainly used to treat angina pectoris: nitrates, β-blockers, and calcium antagonists. The goal of antianginal therapy is to reduce myocardial oxygen demand and / or increase myocardial perfusion. Low-dose aspirin is recommended for all patients with stable coronary artery disease. Clopidagrel is recommended as an alternative drug in cases of aspirin intolerance. Statins are recommended for all patients with stable coronary artery disease. Angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers are indicated in the presence of heart failure, hypertension and diabetes.

Nitrates. The main remedy for stopping an attack of angina pectoris remains nitroglycerin in tablets for sublingual use. The effect usually comes quickly, after 1-3 minutes, the duration of the action is up to 30 minutes. If one nitroglycerin tablet does not relieve the attack, the dose can be repeated at approximately 5-minute intervals. It is not recommended to take a total of more than 1.2 mg of nitroglycerin within 15 minutes. If within 15 minutes after repeated doses of nitroglycerin the attack does not stop or increases, then there is a high probability of developing necrosis.

β-blockers. The drugs of this group are the basis of complex therapy for stable exertional angina, as they reduce the frequency of angina attacks and increase the pain threshold.

Calcium antagonists. This is a rather heterogeneous group of drugs that have an effect on blood vessels (dilatation of coronary and peripheral arteries) and on the heart (negative inotropic effect).

The most pronounced vasodilating effect is possessed by nifedipine and other dehydroperidine derivatives (amlodipine, felodipine, isradipine); negative inotropic effect - verapamil and other phenylalkylamine producing agents (gallopamil, anipamil, falipamil). An intermediate position is occupied by diltiazem. Recently, prolonged forms of these drugs are increasingly used.

Other anti-ischemic drugs

Ivabradine is a selective inhibitor of the if-channels of the sinus node of the heart, reduces heart rate and does not affect intra-atrial, intraventricular conduction, is effective antianginal drug. The initial dose is 5 mg 2 times a day.

Nicorandil is a nitrate derivative of nicotinamide that causes vasodilation of epicardial coronary arteries and stimulates ATP-sensitive potassium channels in vascular smooth muscles. It is used at a dose of 20 mg 2 times a day.

Trimetazidine is an anti-ischemic drug that modulates myocardial metabolism. It is used in a dose of 35 mg 2 times a day.

Ranolazine is an effective inhibitor of late sodium current with anti-ischemic and metabolic properties. Starts at 500 mg 2 times a day.

Allopurinol is an inhibitor of xanthine oxidase, reduces the level of uric acid in people with gout, antianginal effect in patients with stable coronary artery disease. It is used in tablets of 600 mg per day.

Molsidomine is a direct donor of nitric oxide with an antianginal effect. It is used 8 mg 2 times a day.

Combination therapy

In some patients with stable angina, one sublingual nitroglycerin is sufficient, but if attacks occur more than 2-3 times a week, it is added β-blocker or calcium antagonist. If the attacks continue after that, add prolonged nitrates. If necessary, use all three groups of drugs (nitrates, β-blockers and calcium antagonists).

In combination therapy, the characteristics of each drug should be taken into account. The combination of dihydroperidine calcium antagonists (nifedipine) and prolonged nitrates (β-blockers) is not an optimal combination, since both groups of drugs have a vasodilatory effect. In patients with severe left ventricular dysfunction, sinus

bradycardia, atrioventricular conduction disorders, combination therapy with β-blockers and calcium antagonists should be used with caution or not at all.

The combination of prolonged nitrates with calcium antagonists of the dehydroperidine series is optimal in the treatment of patients with disorders atrioventricular conduction. When a combination of β-blockers, especially large doses, with calcium antagonists, their negative inotropic effect must be taken into account.

Lipid-lowering therapy

All patients, in the absence of contraindications, should be prescribed statins.

4. Medical and labor expertise. Dispensary observation.

Examination of working capacity. If myocardial infarction is not Q-forming and uncomplicated (angina pectoris not more than I and Chronic heart failure not more than I stage), employment is indicated by a clinical expert commission. If MI is complicated (angina pectoris Functional class no more than II and Chronic heart failure no more than stage II) - also employment on the recommendation of the clinical expert commission, in case of loss of qualifications, send to the Medico-social expert commission to determine the disability group. If myocardial infarction is Q-forming uncomplicated (angina pectoris Functional class no more than I and Chronic heart failure no more than stage I), then persons of physical labor and / or a greater volume of industrial activity should be sent to the Medical and Social Expert Commission to establish a disability group. If myocardial infarction is complicated (angina pectoris Functional class more than I-II and Chronic heart failure no more than stage II), then regardless of the specialty, patients are also sent to the Medical and Social Expert Commission to establish a disability group. Spa treatment. After suffering an MI more than 1 year ago without angina attacks or with rare bouts of tension without disturbing the rhythm and signs. With a higher functional class of angina pectoris and heart failure, treatment is indicated only in local sanatoriums.

Dispensary observation. The diagnosis of postinfarction cardiosclerosis is established 2 months after the onset of myocardial

infarction. It is during this period that the formation of cicatricial connective tissue ends at the site of cardiac muscle necrosis. Patients who underwent myocardial infarction should be followed up by a cardiologist for the first year in a cardiological dispensary or polyclinic, and follow-up is desirable for subsequent years. Observation frequency and examination of patients with MI at the outpatient stage of rehabilitation. At the first visit of the patient to the doctor, an outpatient card is filled out, a plan for the management and treatment of the patient is drawn up, an discharge summary and a plan of dispensary observation are written before discharge for work. II period of outpatient treatment, the patient must visit the doctor once every 7-10 days, up to discharge to work. Then after the 1st, 2nd week and the end of the first month of work. Then 2 times a month and the first six months, in the next six months - monthly. Second year - once a quarter. At each visit to the patient, an ECG is taken. An exercise test (treadmill, VEM, CPES) is performed after 3 months of MI development (in some clinics in patients with uncomplicated heart attack at the end of the 1st month of treatment), then before discharge for work and / or when referral to medical and social expertise (MSEC). Then, at least once a year. Echo–CG: upon arrival from a cardiological sanatorium, before discharge to work and then once a year with Q-forming MI, with an ejection fraction <35 or with LV dysfunction - once every 6 months, Holter ECG monitoring: after arriving from a sanatorium, before a statement of work and referrals to MSEC, then once every 6 months. General analysis of blood, urine, blood glucose is examined before discharge for work and / or when referring to the Medical and Social Expert Commission, then once every 6 months in the 1st year, and then at least once a year, ACT and ALT 2 times per year (if taking statins). Study of the lipid profile: OC, LDL, HDL and TG 3 months after the start of anti-sclerotic therapy, then every 6 months. Other tests are done as indicated.

Clinical case No. 7

1. What is the preliminary diagnosis?

Preliminary diagnosis: Coronary heart disease: rhythm disturbance in the form of paroxysmal atrial fibrillation (tachysystolic form).

2. What additional tests would you recommend to the patient, and what are the expected results?

Basic examination in patients with coronary artery disease includes standard biochemical tests: troponin T or I level, complete blood count with hemoglobin and leukocyte counts, glycated hemoglobin and fasting plasma glucose, serum creatinine level and assessment of renal function by creatinine clearance, blood lipid spectrum, assessment of thyroid function, hepatic function tests, creatinine phosphokinase level, brain natriuretic peptide type B (BNP) or GC-B level, peptide hormone and its precursor (BNP / NT-proBNP).

Instrumental studies

Electrocardiogram (ECG) at rest and / or during or immediately after an attack of chest pain, outpatient ECG monitoring (in patients with suspected arrhythmia and vasospastic angina), echocardiography (Echocardiography) at rest to identify violations of regional contractility, determine ejection fractions and assess the diastolic function of the left ventricle, ultrasound examination of the carotid arteries to determine the thickness of intima media and / or detection of atherosclerotic plaques, chest x-ray.

Tests according to indications

Non-invasive methods of ischemia diagnosis:

1) ECG -stress test with physical activity;

2) stress echocardiogram with exercise or using dobutamine or a vasodilator;

3) exercise or vasodilator positron emission computed tomography;

4) magnetic resonance imaging (MRI) of the heart with dobutamine and vasodilator;

5) Hybrid imaging (single-photon emission computed tomography) of the heart.

Non-invasive methods for assessing the anatomy of the coronary arteries

Computed tomography of the coronary arteries is performed without the introduction of a contrast agent or after intravenous administration of iodine-containing contrast.

Invasive coronary angiography

Invasive coronary angiography is performed to determine the feasibility of re.

3. What is the patient's management?

Medication. Currently, three classes of drugs are mainly used to treat angina pectoris: nitrates, β-blockers, and calcium antagonists. The goal of antianginal therapy is to reduce myocardial oxygen demand and / or increase myocardial perfusion. Low-dose aspirin is recommended for all patients with stable coronary artery disease. Clopidagrel is recommended as an alternative drug in cases of aspirin intolerance. Statins are recommended for all patients with stable coronary artery disease. Angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers are indicated in the presence of heart failure, hypertension, and diabetes.

Nitrates. The main remedy for stopping an attack of angina pectoris remains nitroglycerin in tablets for sublingual use. The effect usually comes quickly, after 1-3 minutes, the duration of the action is up to 30 minutes. If one nitroglycerin tablet does not relieve the attack, the dose can be repeated at approximately 5-minute intervals. It is not recommended to take a total of more than 1.2 mg of nitroglycerin within 15 minutes. If within 15 minutes after repeated doses of nitroglycerin the attack does not stop or increases, then there is a high probability of developing necrosis.

β-blockers. The drugs of this group are the basis of complex therapy for stable exertional angina, as they reduce the frequency of angina attacks and increase the pain threshold.

Calcium antagonists. This is a rather heterogeneous group of drugs that have an effect on blood vessels (dilatation of coronary and peripheral arteries) and on the heart (negative inotropic effect).

The most pronounced vasodilating effect is possessed by nifedipine and other dehydroperidine derivatives (amlodipine, felodipine, isradipine); negative inotropic effect - verapamil and other phenylalkylamine producing agents (gallopamil, anipamil, falipamil). An intermediate position is occupied by diltiazem. Recently, prolonged forms of these drugs are increasingly used.

Other anti-ischemic drugs

Ivabradine is a selective inhibitor of if-channels of the sinus node of the heart, reduces heart rate and does not affect intra-atrial, intraventricular conduction, is effective antianginal drug. The initial dose is 5 mg 2 times a day.

Nicorandil is a nitrate derivative of nicotinamide that causes vasodilation of epicardial coronary arteries and stimulates ATP-sensitive potassium channels in vascular smooth muscles. It is used at a dose of 20 mg 2 times a day.

Trimetazidine is an anti-ischemic drug that modulates myocardial metabolism. It is used in a dose of 35 mg 2 times a day.

Ranolazine is an effective inhibitor of late sodium current with anti-ischemic and metabolic properties. Starts at 500 mg 2 times a day.

Allopurinol is an inhibitor of xanthine oxidase, reduces the level of uric acid in people with gout, antianginal effect in patients with stable coronary artery disease. It is used in tablets of 600 mg per day.

Molsidomine is a direct donor of nitric oxide with an antianginal effect. It is used 8 mg 2 times a day.

Combination therapy

In some patients with stable angina, one sublingual nitroglycerin is sufficient, but if attacks occur more than 2-3 times a week, a β-blocker or antagonist is added calcium. If the attacks continue after that, add prolonged nitrates. If necessary, use all three groups of drugs (nitrates, β-blockers and calcium antagonists).

In combination therapy, the characteristics of each drug should be taken into account. The combination of dihydroperidine calcium antagonists (nifedipine) and prolonged nitrates (β-blockers) is not an optimal combination, since both groups of drugs have a vasodilatory effect. In patients with severe left ventricular dysfunction, sinus bradycardia, atrioventricular conduction disorders, combination therapy with β-blockers and calcium antagonists should be used with caution or not at all.

The combination of prolonged nitrates with calcium antagonists of the dehydroperidine series is optimal in the treatment of patients with disorders atrioventricular conduction. When a combination of

β-blockers, especially large doses, with calcium antagonists, their negative inotropic effect should be taken into account.

Lipid-lowering therapy

All patients, in the absence of contraindications, should be prescribed statins.

4. Medical and labor expertise. Dispensary observation.

Permanent disability. Indications for referral to the Bureau of the Medical Social Expert Commission: Angina pectoris III and IV Functional class; severe dysfunctions of the cardiovascular system after MI; severe and moderate heart rhythm disturbances, taking into account the underlying disease that caused their occurrence, the patient's absolute dependence on the pacemaker; Heart failure II, III degree, the presence of contraindications in the nature and working conditions.

Chronic form of Coronary heart disease. The frequency of observation by a physician is 2–4 times a year, depending on the Functional Class. The cardiologist and psychotherapist are examined once a year. If worsening, hospitalization and ECG monitoring every 5-7 days. When arrhythmias arise for the first time (extrasystole, paroxysmal rhythm disturbances), examination and treatment are carried out in a hospital.

Laboratory and instrumental studies. Blood test, blood lipids, electrolytes, urinalysis once a year. Transaminases (AST, ALT), ECG, functional tests, an exercise ECG test ("treadmill test") - according to indications.

Treatment. Nitrates, beta-blockers, calcium antagonists, etc., depending on PK and associated disorders. Correction of risk factors.

Clinical case No. 8

1. What is the preliminary diagnosis?

The preliminary diagnosis: congenital heart disease. Coarctation of the aorta.

2. What additional tests would you recommend to the patient, and what are the expected results?

There will be no specific changes in laboratory tests with CHD.

The list of basic laboratory tests includes:

- determination of the blood group by ABO systems;
- determination of the Rh factor;
- complete blood count;
- general urinalysis;
- biochemical blood test (sodium, potassium, glucose, urea, creatinine, total protein, albumin, prealbumin, total bilirubin (direct, indirect), LDH, AST, ALT, CRP, cholesterol, HDL, LDL, triglycerides, amylase, ferritin, serum iron, transferrin, GGTP, alkaline phosphatase);
- blood electrolytes (magnesium, potassium, calcium, sodium);
- Coagulation testing (APTT, PT, INR, fibrinogen);
- determination of the level of natriuretic peptide (hereinafter BNP or pro-BNP or ANP) by ELISA;
- glycated hemoglobin;
- determination of thyroid hormones by ELISA (TSH, T4, T3, ATkTPO);
- bacteriological examination of the nasopharynx, sputum, urine with an antibiotic gram (for infective endocarditis);
- ELISA infection: determination of markers of viral hepatitis B (HBsAg, anti-HBs, anti-HBcore), hepatitis C (anti-HCV, HIV infection (HIVAg / anti-HIV);
- Wasserman reaction.

Instrumental studies

Electrocardiography is one of the main non-invasive methods of examination of patients with CHD, carried out by graphic registration of biopotentials arising in a functioning heart. left atrium, right atrium. The ECG allows you to clarify the nature of cardiac arrhythmias and conduction disorders: sinus tachycardia, extrasystole, Wolff-Parkinson-White (WPW) phenomenon, ventricular tachycardias, atrioventricular blockade of varying degrees, and others.

Echocardiography is a highly informative non-invasive study of heart ultrasonic waves.

Doppler echocardiography - pulsed, continuous wave, color, color M-mode, energy, tissue color, tissue pulse, tissue C-mode, etc.

- a method that allows non-invasive assessment of the parameters of central hemodynamics.

Volumetric (3D) and (4D) echocardiography is a high-tech ultrasound examination of the heart, possible due to the combination of a large number of ultrasound emitters with an appropriate signal processing system. In this case, the construction of a motionless three-dimensional (volumetric) model of the whole heart and / or its individual structures (so-called 3D-modeling) is carried out. This function allows you to assess the mobility of the walls of the heart and valves at a qualitatively higher level.

X-ray of the chest organs is one of the main methods for diagnosing congenital heart defects. Possibilities of radiography:

1) determination of the position and shape of the heart in the chest, its size;

2) determination of the size of individual chambers of the heart, the nature of discharge and the location of the great vessels;

3) assessment of the pulmonary pattern, which reflects arterial and / or venous congestion, indicates an increase (hypervolemia) or decrease in the blood supply of the pulmonary circulation (hypovolemia), blood flow through the intercostal arteries (has diagnostic value in coarctation of the aorta, tetrad of Fallot);

4) identification of changes in noncardiac structures (lungs, pleura, spine, thymus gland, diaphragm, ribs).

Catheterization (probing) of the cardiac cavities is an invasive highly informative research method in which a catheter is inserted through a peripheral vein or artery to guide it into various cardiac cavities and great vessels, not only for diagnostic purposes, but also to close Congenital defects heart, such as Patent ductus arteriosus, Atrial septal defect (balloon atrioseptotomy, angioplasty with narrowing of the aortic and pulmonary artery valves), diseases of the systemic and pulmonary arteries (dilatation, recanalization, etc.). For diagnostic purposes, cardiac catheterization and angiocardiography are performed in the following cases:

1) in case of suspected congenital heart defects to clarify its type, if there are indications for surgery (heart failure, progressive pulmonary hypertension, etc.));

2) to clarify the morphological features and hemodynamic manifestations of an already known heart defect before surgery;

3) to assess the results of operations or to determine indications for reoperation;

4) in the presence of cyanosis in young children and at an older age, including cases of.

3. What is the patient's management?

The presence of coarctation of the aorta is an absolute indication for surgery. Conservative treatment of complications (heart failure, arterial hypertension, malnutrition) is ineffective, especially with concomitant CHD. The operation is necessary for all infants with coarctation of the aorta and complicated course of the disease. With isolated coarctation of the aorta, surgery is indicated for high arterial hypertension, cardiomegaly, signs of uncontrolled heart failure and fibroelastosis. In the absence of complications, the optimal age for surgery should be considered to be between 3 and 5 years. It is at this age that a direct aortic anastomosis of sufficient diameter can be applied, which does not prevent further enlargement of the lumen of the aorta as the child grows.

Surgical intervention for coarctation of the aorta is aimed at restoring full patency of the thoracic aorta. In adult patients, the restoration of patency of the aorta is usually easily accomplished by resecting the narrowed area of the aorta and applying an end-to-end anastomosis or replacing the narrowed area with a vascular graft. Less commonly, direct or indirect aortic isthmoplasty is used.

Long-term results of surgical treatment of aortic coarctation in children and adolescents can be regarded as excellent. The normalization of blood pressure in patients without a pathological pressure gradient is observed in most cases, especially if the operation was performed in the first 5 years of life.

Among other complications observed in the long term, the development of an aneurysm in the area of operation should be noted.

4. Medical and labor examination. Dispensary observation.

Temporary disability. To determine the degree of disability and for the employment of patients with CHD, social criteria are important: the nature of the main profession, working conditions, labor orientation and the possibility of retraining.

A patient with CHD can be incapacitated in various conditions:

a) dyspnea-cyanotic attacks;

b) an attack of left ventricular insufficiency;

c) cerebrovascular accident.

The terms of temporary disability in CHD depend on the type of defect and are determined by the severity of the condition, its consequences, and the degree of recovery of impaired functions.

In case of CHD of the sub compensation stage, with HF, the patient's NYHA functional class I is temporarily released from work for 5-7 days. In case of HF, functional class I according to NYHA, which occurs without dyspnea-cyanotic attacks, there is no need to issue a certificate of incapacity for work. Most patients can work and only need to create good working conditions. Highly qualified people continue to work even with significant neuropsychiatric stress, if the work and rest regime is observed.

In case of CHD with HF FC II-III according to NYHA, the duration of temporary disability is 7-10 days, in case of severe dyspnea-cyanotic attacks, the patient is released from work for 3-4 weeks.

Persistent disability. The necessary data when referring to the CHD: the conclusion of a pediatrician-cardiologist, cardiac surgeon (as indicated), neurologist, psychologist, etc.; X-ray examination of the chest organs; ECG; ECG monitoring; EchoCG; angiography and catheterization of cardiac cavities (as indicated).

Dispensary observation

The goals of dispensary observation of patients with congenital heart defects facing pediatricians, cardiologists and family doctors at the moment:

1) early identification of patients with CHD;

2) clarification of the topical diagnosis;

3) systematic observation of this category of patients;

4) in case of indications for surgical correction, it is necessary to determine the optimal terms of surgical intervention;

5) timely prescription of conservative therapy;

6) preparing patients for operational intervention;

7) post-operative restorative treatment.

All follow-up periods are conditional, they can be changed depending on the individual characteristics of the child, the type of CHD, severity. Children of the first month of life with UPU are observed by a pediatrician, pediatric cardiologist weekly, in the first half of the year - 2 times a month, in the second - monthly, after the first year of life - 2 times a year.

Infants should be observed 1 times a month, patients with cyanosis and signs of heart failure - 1 times a quarter, examination of a child under the age of 3 - 1 times a 6 months. At least 1 times a year, and sometimes more often, the patient should be routinely examined in the hospital, including examined by a cardiac surgeon, for dynamic control, correction of doses of maintenance therapy, and rehabilitation of foci of infection. At the same time, it is necessary to register ECG at least 1 times a quarter, conduct EchoCG 2 times a year and chest X-ray 1 times a year.

Complete blood count - at least 2 times a year, pulse and blood pressure control during each review, thermometry. Echocardiography, electrocardiography in the case of the usual course of pathology - 2 times a year; in the adaptation phase, in severe course and treatment, digoxin - according to an individual plan. Chest X-ray at 1-2 years of life - at least 1 times a year, then - 1 times 2-2.5 years.

After the surgical intervention, patients, depending on the type of CHD and the type of operation, should undergo periodic examinations by a cardiac surgeon after 3, 6, 9 months, and then - 1 times a year.

Criteria for the effectiveness of medical examination:

- no complaints;
- absence of clinical symptoms of decompensation;
- absence of clinical and laboratory signs of current infective endocarditis;
- disappearance or significant reduction of blemish noise;

- normalization of systemic and pulmonary pressure;
- disappearance or significant reduction of electrocardiographic and echocardiographic signs of myocardial hypertrophy;
- disappearance of heart rhythm and conduction disturbances;
- good tolerability of normal physical activity.

A child with an operated heart, even with an excellent outcome of the operation, cannot be equated with a healthy child.

Clinical case No. 9

1. What is the preliminary diagnosis?

Preliminary diagnosis: stage II hypertension.

2. What additional tests would you recommend to the patient, and what are the expected results?

1. Laboratory research methods: general analysis of blood and urine; study of glucose in blood plasma (on an empty stomach); study of total cholesterol (TC), high density lipoprotein cholesterol (HDL cholesterol), low density lipoprotein cholesterol (LDL cholesterol), triglycerides (TG); study of potassium, sodium in blood serum.

2. Blood creatinine clearance (ml / min), glomerular filtration rate (GFR) in ml / min / 1.73 m2. A decrease in creatinine clearance <60 ml / min or GFR <60 ml / min / 1.73 m2 indicates impaired renal function.

3. The concentration of uric acid in the blood, since hyperuricemia is often observed in hypertension, including in patients with MS, diabetes mellitus, and is an independent RF of kidney damage.

4. All patients with hypertension are advised to determine the presence of protein in the urine in the morning or daily portion. If the test result for proteinuria is negative and the risk of kidney damage is high, especially in patients with MS, diabetes, it is recommended to use quantitative methods to detect MAU.

5. Microscopy of urinary sediment is recommended for the detection of erythrocytes, leukocytes, epithelial cells, cylinders, crystalline and amorphous salts, the study of aspartate aminotransferase (AST), alanine aminotransferase (ALT).

6. For the detection of impaired glucose tolerance and the diagnosis of diabetes, it is recommended to perform an oral glucose tolerance test and / or the determination of glycated hemoglobin (HbA1c) - with a plasma glucose level ≥ 5.6 mmol / L (100 mg / dL). Instrumental research

7. Electrocardiography (ECG) is recommended for all hypertensive patients to detect left ventricular hypertrophy. Left ventricular hypertrophy is characterized by the Sokolov-Lyon index SV1 + RV5–6> 35 mm; Cornell index (RAVL + SV3) ≥ 20 mm - for women, (RAVL + SV3) ≥ 28 mm - for men; Cornell product (RAVL + SV5) mm × QRS ms> 2440 mm × ms), cardiac arrhythmias and conduction disturbances and other cardiac lesions.

8. Exercise ECG test (physical, pharmacological, transesophageal electrical stimulation) is recommended for patients with cardiac arrhythmias and conduction disturbances (history, physical examination, Holter ECG monitoring, or if exercise-induced arrhythmias are suspected). Echocardiography is recommended to clarify the presence and severity of LVH, dilatation of the left atrium (LA) and other heart lesions. Distinguish between concentric and eccentric LVH, prognostically more unfavorable is concentric LVH. If you suspect the presence of myocardial ischemia, it is recommended to conduct an ECG test with stress (physical, pharmacological, transesophageal electrical stimulation). If the result is positive or questionable, an imaging stress test (stress echocardiography, stress MRI, or myocardial stress scintigraphy) is recommended.

9. Duplex scanning of the brachiocephalic arteries is recommended to detect vascular wall thickening (BMI ≥ 0.9 mm) or the presence of atherosclerotic plaque, especially in men over 40, women over 50, and in patients with a high overall cardiovascular risk. Determination of the pulse wave velocity is recommended for determining the stiffness of the arterial wall. The risk of CV development increases with a pulse wave speed of more than 10 m / s.

10. Ankle-brachial index (ABI) is recommended for suspected peripheral atherosclerosis. A decrease in its value less than 0.9 indicates

an obliterating lesion of the arteries of the lower extremities and can be regarded as an indirect sign of severe atherosclerosis.

11. Ultrasonography of the kidneys is recommended to assess their size, structure, and congenital abnormalities.

12. Fundus examination (hemorrhages, exudates, papilla edema) is recommended for patients with refractory hypertension, as well as for patients with severe hypertension and high total CV risk.

13. Chest x-ray is recommended to detect left ventricular dilatation and signs of pulmonary congestion.

14. Out-of-office blood pressure measurement: SCAD and / or ABP is recommended for confirming the diagnosis of hypertension, establishing the type of hypertension, identifying episodes of hypotension and the most accurate prediction of cardiovascular risk. The patient or his relatives can measure blood pressure on their own using automatic or semi-automatic "household" blood pressure meters at home. This method, which has become widespread in recent years, is referred to as the SCUD method.

15. 24-hour blood pressure monitoring (ABPM) p.

3. What is the patient's management?

Medication. All major drug groups - diuretics (thiazides, chlorthalidone and indapamide), beta-blockers, calcium antagonists, ACE inhibitors and angiotensin receptor blockers - are suitable and recommended for initial and maintenance antihypertensive therapy, either as monotherapy or in certain combinations with each other (IA).

Some drugs are advisable to be considered preferable for specific situations, since they have been used in these situations in clinical trials or have shown higher efficacy in specific types of IIaC target organ damage (Table 1).Table 1 - Conditions requiring the choice of individual drugs

Condition Drugs

Asymptomatic target organ damage

LVH ACE inhibitors, calcium antagonists, ARBs

Asymptomatic atherosclerosis Calcium antagonists, ACE inhibitors

Microalbuminuria ACE inhibitors, ARBs

Renal dysfunction ACE inhibitors, ARBs

Cardiovascular event

History of myocardial infarction BB, ACE inhibitors, ARBs

History of stroke

Any drug that effectively lowers blood pressure

Angina pectoris BB, calcium antagonists

Heart failure Diuretics, BB, ACE inhibitors, ARBs, mineralocorticoid receptor antagonists

Aortic aneurysm BB

Atrial fibrillation (prevention)

Atrial fibrillation (ventricular rate control) Possible ARBs, ACE inhibitors, BBs, or mineralocorticoid receptor antagonists

BB, calcium antagonists (nondihydropyridine)

End-stage CKD / proteinuria ACE inhibitors, ARBs

Peripheral arterial disease ACE inhibitors, calcium antagonists

Other

ISAG (old and senile age) Diuretics, calcium antagonists

Metabolic syndrome, ACE inhibitors, calcium antagonists, ARBs

Diabetes mellitus ACE inhibitors, ARBs

Pregnancy Methyldopa, BB, calcium antagonists

Negroid race Diuretics, calcium antagonists

Abbreviations: ACE, Angiotensin-converting enzyme; ARB - Angiotensin Receptor Blocker; BP - Blood pressure; CKD - Chronic Kidney Disease; ISAG - Isolated systolic arterial hypertension; LVH - Left ventricular hypertrophy. Monotherapy can effectively lower blood pressure only in a limited number of hypertensive patients (low to moderate cardiovascular risk), and most patients require a combination of at least two drugs to achieve blood pressure control.

Surgical intervention. Endovascular treatment of resistant hypertension - catheter ablation of the sympathetic plexus of the renal artery, or renal denervation - is bilateral destruction of the nerve plexuses along the renal artery using radiofrequency ablation with a catheter inserted percutaneously through the femoral artery. The mechanism of this intervention is to disrupt the sympathetic effect on renal vascular resistance, renin release and sodium reabsorption, and to reduce the

increased sympathetic tone in the kidneys and other organs observed in hypertension. The indication for the procedure is resistant uncontrolled essential hypertension (systolic blood pressure when measuring office and DMAD is more than 160 mm Hg or 150 mm Hg - in patients with diabetes mellitus, confirmed by ABP ≥ 130/80 mm Hg, despite on triple therapy performed by a hypertension specialist and patient's satisfactory adherence to treatment. Contraindications to the procedure are renal arteries less than 4 mm in diameter and less than 20 mm in length, a history of manipulations on the renal arteries (angioplasty, stenting), renal artery stenosis more than 50%, renal failure (GFR less than 45 ml / min / 1.75 m2), vascular events (MI, episode of unstable angina pectoris, transient ischemic attack, stroke) less than 6 months. before the procedure, any secondary form of hypertension.

4. Medical and labor expertise. Dispensary observation.

With a mild crisis in the II stage of GB, the duration of temporary disability is 7-10 days, with severe crises and exacerbations, the patient is released from work for 3-4 weeks. It has been noticed that with compensated stage III hypertension in a patient working in specially created conditions, prolonged dismissal from work aggravates the clinical and labor prognosis.

With GB stage I, proceeding without crises, there is no need to issue a certificate of incapacity for work. Most of the patients are able to work and only need to create facilitated working conditions. Persons with high qualifications continue to work even with significant neuropsychic stress, if the regime of work and rest is observed. Contraindicated are works associated with significant physical exertion, climbing to a height, in hot shops and with sharp fluctuations in air temperature, during the night shift, conveyor types of work and work in contact with vascular poisons (lead, benzene, carbon monoxide, nicotine), etc. In the absence of conditions for rational employment, a III disability group is established for 1 year to acquire a new profession.

Permanent disability. In the case of an exacerbation of stage II hypertension (blood pressure above the usual numbers) with a deterioration in the general condition, patients need to be released from work for a period of at least 3-4 weeks. The ability to work of such patients

is significantly reduced, most of them are of limited working capacity (disabled persons of group III). At this stage, all those types and working conditions are excluded that are contraindicated in stage I of hypertension. Patients should be transferred from piecework to hourly wages; the duration of the working day should not exceed 6 hours. If changes in the cardiovascular system prevail, then you can continue to work associated with only minor physical stress. With a predominant lesion of the vessels of the kidneys, work in a damp, cold room is contraindicated. With pronounced cerebral symptoms, work is contraindicated even with moderate neuropsychic stress. If the patient's employment in these cases is associated with a decrease in qualifications, he is assigned a III disability group.

Patients with stage III hypertension lose their professional ability to work and are disabled in group II. At the stage of compensation, some patients are allowed to work in specially created conditions and at home.

Acute respiratory viral diseases, influenza, tonsillitis and other concomitant diseases with hypertension are more severe, the periods of temporary disability are lengthened.

Dispensary observation. Patients with stage I hypertension, as well as with stable mild and moderate stage II hypertension, are registered with a general practitioner. Patients with severe stage II hypertension, as well as patients with hypertension resistant to drug treatment, remain under the supervision of a cardiologist of the polyclinic. All persons who have come to the clinic for the first time for any reason should measure blood pressure, involving nursing staff. A specially trained nurse in the office fills out a questionnaire for the diagnosis of hypertension in a polyclinic, measures blood pressure twice and writes the numbers into an outpatient card. After taking repeated measurements of blood pressure, the nurse gives advice on non-drug therapy and refers the patient to the doctor.

During pregnancy, hypertension is the main cause of preterm birth, perinatal and maternal mortality (20–30% of cases), usually occurring late (after the 20th week) and disappearing within 6 weeks after birth. If hypertension develops early and persists for more than

6 weeks after childbirth, then the cause of the disease is more often kidney disease, and therefore, during repeated pregnancy, such patients require especially careful monitoring.

Modern technology of medical care for patients with hypertension also includes rational medical documentation. For patients with stable hypertension, who must receive antihypertensive drugs for life, a dispensary observation sheet is filled out, which is a formalized insert in an outpatient card. It dynamically presents the results of drug therapy, taking into account the patient's complaints, the value of blood pressure and pulse, contains information about the side effects of drugs in each case. The same list is proposed to be kept by a patient with hypertension at home. The introduction of such sheets into the practice of the therapist and cardiologist of the polyclinic makes it possible to reduce the number of entries in the 025 / y form, free up time for a more thorough examination of the patient and promptly manage the pharmacotherapy of hypertension.

Frequency.

Clinical case No. 10

1. What is the preliminary diagnosis?

Preliminary diagnosis: pulmonary embolism.

2. What additional tests would you recommend to the patient, and what are the expected results?

Electrocardiography in most cases helps to suspect massive pulmonary embolism The appearance of signs of acute cor pulmonale: Me Ginn-White syndrome (S1Q3 T3), displacement of the transition zone (deep SV5-6 in combination with negative TV1-4) is caused by an increase in the level of pressure in the pulmonary circulation over 50 , 0 mm Hg. Art.

Plain chest X-ray allows you to exclude other than embolism, lung pathology, similar to it in symptomatology. Dilation of the right heart with widening of the venous inflow pathways, the high position of the diaphragm on the side of the occlusion and the depletion of the pulmonary vascular pattern indicate the massive nature of the embolic

lesion. Unfortunately, in almost a third of patients, radiographic signs of embolism are absent at all. The "classic" triangular shadow of pulmonary infarction is detected extremely rarely (less than 2%), much more often it has a large polymorphism.

Ultrasonic and radionuclide research methods are more informative.

Echocardiography can detect the occurrence of acute pulmonary heart disease, exclude the pathology of the valve apparatus and the myocardium of the left ventricle. With its help, it is possible to determine the severity of hypertension of the pulmonary circulation, assess the structural and functional state of the right ventricle, detect thromboemboli in the cardiac cavities and in the main pulmonary arteries, visualize the open oval window, which can affect the severity of hemodynamic disorders and cause paradoxical embolism. Ultrasound angioscanning of the veins of the lower extremities makes it possible to detect the source of embolization. At the same time, it is possible to obtain comprehensive information about the localization, length and nature of thrombotic occlusion, the presence or absence of the threat of re-embolism. Difficulties arise in visualizing the ileocaval segment, which can be obstructed by intestinal gas.

Perfusion lung scan performed after intravenous administration of 997c-labeled albumin macrospheres is recognized as the most appropriate method for screening PE. If the patient is in a stable condition, this method should "go ahead" of the rest of the instrumental studies. The absence of impaired pulmonary blood flow on scintigrams performed in at least two projections (anterior and posterior) completely excludes the diagnosis of thromboembolism.

With the help of computed tomography, you can find out the exact size and location of a thrombus. MRI also helps to examine the branches of the lungs and detect a thrombus.

3. What is the patient's management?

Anticoagulants prevent secondary thrombus formation in the pulmonary vascular bed and the progression of venous thrombosis - the source of embolism. It is advisable to widely use low-molecular-weight heparins (dalteparin sodium, nadroparin sodium, enoxaparin

sodium), which are easier to dose in comparison with conventional unfractionated heparin, less likely to cause hemorrhagic complications, and have less effect on platelet function. The duration of heparin therapy is 5-10 days. Before reducing the dose of heparin, indirect anticoagulants are prescribed, which, after selecting an adequate dose, the patient should take at least 6 months to prevent recurrence of phlebothrombosis and PE.

Thrombolytic therapy

With massive PE, thrombolytic therapy is indicated in most clinical situations. It is absolutely necessary for patients with severe pulmonary perfusion disorders accompanied by significant hypertension in the pulmonary circulation system (more than 50 mm Hg). In clinical practice, streptokinase preparations are most often used, despite the frequent occurrence of severe allergic reactions. It is prescribed at a dose of 100,000 units per hour. The duration of therapeutic thrombolysis is usually 2-3 days. Under the influence of streptokinase, there is a significant acceleration of the process of restoration of pulmonary blood flow, which reduces the time of dangerous hemodynamic overload of the right ventricle. Urokinase lacks antigenic properties, but is rarely used due to its high cost. Clinicians pinned great hopes on the use of tissue plasminogen activator obtained using genetic engineering methods (alteplase). Modern thrombolytic agents can be introduced into the general bloodstream through both central and peripheral veins. In case of occlusive forms of pulmonary artery disease during angiographic examination, it is advisable to first tunnel and destroy the embolus with a special catheter, and inject the drug directly into the thromboembolism.

Surgery

The progressive deterioration of the condition of patients with massive PE may require urgent surgical intervention. Embolectomy is indicated for patients with thromboembolism of the pulmonary trunk or both of its main branches with an extremely severe degree of impairment of pulmonary perfusion, accompanied by pronounced hemodynamic disorders. Three different pulmonary embolectomy techniques are currently used. Embolectomy under conditions of

temporary vena cava occlusion does not require complex technical support, and in case of emergency it can be successfully performed by an experienced general surgeon. One of the most dangerous stages of such an intervention is induction anesthesia, when bradycardia, hypotension and asystole can occur.

Dealing with shock, treating heart failure. Pain relief. Reduced pressure in the pulmonary artery. Fibrinolytic and anticoagulant therapy.

4. Medical and labor expertise. Dispensary observation.

In case of varicose veins, acute thrombophlebitis of the dilated veins, inpatient treatment of ulcers, and surgical treatment are grounds for issuing a leaflet of temporary disability. The average duration of VUT in the outpatient treatment of limited superficial thrombophlebitis is 18-21 days, depending on the reverse development of the process, common - 30-40 days (outpatient and inpatient). In the surgical treatment of varicose veins VUT - within 24-30 days, for those operated on in the presence of ulcers - before their epithelialization. With conservative treatment of ulcers, the average duration of VUT is 40-50 days.

VUT in deep vein thrombophlebitis, depending on the prevalence, level of damage and the effectiveness of the therapy, ranges from 2-3 to 4 months. In case of thrombosis of the inferior vena cava, iliofemoral bilateral thrombosis and thrombosis (regardless of the level) complicated by thromboembolism of the pulmonary artery branches, sick leave treatment, as a rule, should not exceed 4 months, followed by referral to MSE due to long-term disability.

The basis for issuing a leaflet for temporary disability with PTFS is the treatment of trophic ulcers, erysipelas, thrombophlebitis of superficial veins. With uncomplicated erysipelas, VUT - 6-10 days, with complications) - until the inflammation subsides. Contraindicated types and working conditions:

- heavy and moderate physical labor;
- forced working posture - prolonged standing and sitting in one place;
- work in conditions of high and low temperatures and high humidity;

- work in vibration conditions.

Disability with PE is established if the patient has varicose veins or complications of PE.

Disability of the 3rd group is established if the patient has:

Chronic venous diseases with ulcerative defect with significant trophic disorders on one limb or ulcerative defect without significant secretion production on both limbs, corresponding to 4-5 class of clinical manifestations of the international classification of chronic venous diseases

Bilateral lesion with significant trophic disorders, without ulcerative defects, corresponding to the 4th - 5th class of clinical manifestations of the international classification of chronic venous diseases with moderate impairment of stat dynamic functions.

Disability of the 2nd group is established if the patient has:

Chronic venous diseases with ulcerative defects with significant secretion production and trophic disorders on both lower extremities, corresponding to the 4th - 6th class of clinical manifestations of the international classification of chronic venous diseases with severe impairment of stat dynamic functions.

Dispensary observation. All patients who have undergone PE should be monitored for at least 6 months for the timely detection of chronic pulmonary hypertension, which develops in 1-2% of cases as a result of mechanical obstruction of blood flow in the pulmonary circulation.

Patients with pulmonary embolism are monitored by a general practitioner, a general practitioner at intervals of 1 time in 6 months (2 times a year), and they also receive one scheduled consultation with a cardiologist. Patients with severe respiratory and heart failure of FC III-IV are observed by a general practitioner, a general practitioner with an interval of 1 time in 3 months (4 times a year), and they also undergo two scheduled consultations with a cardiologist. It is recommended to include patients in multidisciplinary treatment programs to reduce the risk of PE hospitalizations and mortality. It is necessary to organize regular patient visits to the doctor in order to monitor clinical and laboratory parameters, optimize drug treatment, early detection of

disease progression, as well as the formation of patient adherence to therapy. The frequency of visits depends on the severity of the disease, and older patients may benefit from more frequent visits to the specialist.

In symptomatic patients with PE and recent hospitalization for PE, the use of an implantable hemodynamic monitor to assess pulmonary artery pressure is recommended to reduce the risk of re-admission for PE. One of the important directions is monitoring the condition of patients at a distance (telemonitoring), which allows you to monitor physiological indicators (heart rate, blood pressure, ECG, pulmonary artery pressure, water content in the body, etc.) without leaving home.

Chapter 5. RHEUMATOLOGY SECTION

Clinical case No. 1

Patient N, 38 years old, an athlete, turned to the family doctor for an appointment with complaints of recurrent pain in the lumbosacral spine, left hip, right wrist joints, both knee and ankle joints, aggravated at the end of the working day and at night pain in the eyes. From the anamnesis it was found that he had been ill for 9 years, when, a month after the dysuria phenomena, pain, swelling and an increase in the local temperature of the left ankle appeared. These phenomena were recurrent. Then pains in the right ankle and both knee joints joined. Over the past 1-1.5 years, against the background of an exacerbation, pain began to appear in the lumbosacral spine, the body temperature rose to 37.5-38.1 °C. ESR rose to 49 mm / h. Periodically over the past two years, against the background of exacerbation of pain in the joints, there was a feeling of sand in the eyes, increased lacrimation and cramps in the eyes at the end of the working day.

On objective examination. The patient is quite active, the physique is correct; the nutrition is satisfactory, trophic disorders of the nails, a polymorphic rash on the skin, scaly peeling in the form of plaques on the extremities. Injection of both sclera. Moderate defiguration of the knee, ankle and right wrist joints due to exudative-proliferative changes. In these joints, limitation of movement and moderate pain on palpation. A slight increase in skin temperature over the knee, ankle and right wrist joint. Soreness on palpation of the Achilles tendon, more on the right. In the lumbar spine, on palpation, soreness and tension in the rectus muscles of the back. Restriction of movement in the lumbosacral spine. Internal organs without significant changes.

Complete Blood Count: RBC – 4,6x10^{12}/L, Hb –160 g/L, MCH – 30 pg/cell, WBC – 10,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 39 mm/h.

Biochemical blood test: total protein - 84.7 g / l, albumin - 52%, globulins - a1 - 3.8%, a2 - 9.2%, beta globulins - 12%, gamma globulins - 23%; bilirubin-10.6 mmol / l, cholesterol-4.6 mmol / l, CRP-2, ASL - O - 125 units, uric acid - 375 μmol / L. fasting glucose - 4.8 mmol / l, prothrombin index - 87%. General urine analysis - light yellow, urine specific gravity 1017, protein - absent, glucose - absent, leukocytes - 4-6 in field of vision, erythrocytes - 0-1 in field of vision, epithelium - 2-4 in field of vision. Feces on the eggs of the worm - negative.

Blood test for the presence of HLA - B27 (+). Immunological blood test - circulating immune complexes - 75%, rheumatoid factor IgM - 10.5 conventional units. Study of synovial fluid - a slight inflammatory cellular reaction with a predominance of neutrophils was revealed. Expanded smear on the urogenital flora - the presence of chlamydia was detected. ECG: vertical position of the heart. X-ray of the joints: cysts - moderately pronounced epiphyseal osteoporosis in the area of the right hand, single cyst-like enlightenments of the bone tissue. Ankle joints - narrowing of the joint spaces, periarticular osteoporosis, on the right - single erosion and periostitis in the Achilles tendon. Lumbar spine - large unilateral syndesmophytes at L2-L3 level. Sacroiliac joints - on the left, the articular surfaces are uneven, indistinct, the joint space is narrowed. Consultation with a dermatologist - allergic dermatitis in combination with keratoderma. Ophthalmologist's consultation - fundus: the optic nerve discs are pale pink, the contours are clear, the arteries and veins are of normal caliber. The superficial vessels of the sclera are injected, full-blooded.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 2

Patient N, 43 years old, car mechanic. Upon receipt of a complaint of persistent pain in the lumbosacral spine, as well as in the hip and knee joints, aggravated by movement, sneezing, physical exertion, morning stiffness in the spine for about 40 minutes, restriction of movement in the affected joints. From the anamnesis it was found that he had been suffering from this disease for about 10 years. The onset of the disease is acute, with lesions of the lumbar spine, knee and hip joints. The knee joints were swollen, inflammatory changes in the joints were of a recurrent nature. Over the past 2 years, the exacerbation of the disease has been accompanied by a feeling of morning stiffness in the affected joints. He was repeatedly treated by a neurologist for pain in the spine and accelerated ESR up to 50 mm / h.

On objective examination. The patient has difficulty walking due to pain in the knee and hip joints. According to the constitution of asthenic. The skin is clean, with sufficient moisture. Smoothness of the lumbar lordosis, muscle atrophy, and a positive bowstring symptom are noted. Severe swelling and deflection of the knee joints due to exudative changes. On palpation, pain is determined in the lumbosacral spine, in the region of the sacroiliac joints and knee joints. Thomayer and Schober's test are positive. Internal organs without significant changes.

Complete Blood Count: RBC – 4,6x10^{12}/L, Hb –125 g/L, MCH – 27 pg/cell, WBC – 8,2x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 50 mm/h.

Fasting glucose - 4.5 mmol / l, prothrombin index - 85%. Biochemical blood test: total protein - 85.2 g / l, albumin 53%, globulins A1-4%, A2-9%, beta globulins-12%, gamma globulins -22%; bilirubin - 12.5 μmol / l, cholesterol - 4.5 mmol / l, CRP -2, ASL - O - 125 units.

Determination of histocompatibility antigen HLA - B27 (+). Blood test for rheumatoid factor Ig M - 12.5 conventional units;

Circulating immune complexes - 80 units Study of the synovial fluid of the knee joints - leukocytes 4000-6000 cells / mm. Urinalysis unchanged. Feces on the eggs of the worm - negative. X-ray of the pelvic bones: the presence of signs of bilateral sacroiliitis - narrowing of the sacroiliac joint spaces with single erosions of the articular surfaces of the sacroiliac joints. On the radiograph of the knee joints, a narrowing of the joint space, single bone erosion is determined. Radiographs of the lumbosacral spine in 2 projections: changing the shape of the vertebral bodies in the form of a square, syndesmophytes along the anterior surface of the vertebrae, ossification of the anterior longitudinal ligament, significant narrowing of the intervertebral joint spaces.

ECG: vertical position of the heart. Consultation with a neuropathologist: a positive symptom of a "straight board-like back", soreness of the paravertebral points, spinous processes and ligaments of the spine when pressed, Lasegue`s sign 30 on both sides. Pain and tactile sensitivity is preserved. Stable in the Romberg position.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 3

Patient N, 28 years old, a risk manager, fell ill about 7 months ago: pains in large joints, low-grade body temperature, increased ESR up to 38 mm / h. She was treated for reactive arthritis, received penicillin and other drugs. After 6 months, weakness began to increase, dizziness, headache, and a sharp decrease in visual acuity in the left eye appeared. The therapist revealed a weakening of the pulse on the left radial artery, an increase in blood pressure. Sent to the hospital.

On objective examination: the condition is relatively satisfactory. The skin is moderately pale, clean. Peripheral lymph nodes are

not enlarged. The joints are not changed, the movements in them are in full. Percussion sound is clear, pulmonary, vesicular breathing, no wheezing. Respiratory rate - 18 per minute. The left border of the heart along the mid-clavicular line, a systolic murmur is heard at all points of auscultation of the heart, over the vessels of the neck, and the abdominal aorta. The pulsation on the left radial artery is sharply weakened. Blood pressure on the right hand is 230/130 mm Hg., on the left - 150/130 mm Hg., on the legs - 220/110 mm Hg. The abdomen is soft, painless in all parts. The liver along the edge of the costal arch, the edge is even, smooth, palpation is painless.

Complete Blood Count: RBC – $4,8x10^{12}$/L, Hb –139 g/L, MCH – 27 pg/cell, WBC – $5,4x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 60%, lymphocytes – 29%, monocytes – 7%, eosinophil – 3%, PLT – $214,0x10^{9}$/L, ESR – 51 mm/h.

General analysis of urine: clear, slightly acidic, specific gravity - 1018, protein - 0.33 g / l, no sugar, bile pigment - 0, leukocytes - 0-1-3 in field of vision, erythrocytes - 1-3 in field of vision. Fasting glucose- 4.23 mmol / l, prothrombin index - 95%. Biochemical blood test: CRP - 2, serum iron - 25 mmol / l, protein - 79 g / l, albumin - 53%, a - 4%, b1 - 11%, b2 - 13 %, gamma globulin - 19%, fibrinogen - 3.34, cholesterol - 4.5 mmol / L, bilirubin - 12.4 μmol / L.

Ultrasound of internal organs: the liver is not enlarged, echo-uniform, the vessels and ducts are not dilated, the gallbladder is free, the wall is not thickened, the pancreas is echo-uniform, the contour is even, the duct is not dilated, the kidneys are typically located, mobile, the renal pelvis are not dilated, and the parenchyma is preserved. Consultation with an ophthalmologist: fundus - optic nerve discs of grayish-pink color with vague contours (edema of the discs). The retinal arteries are sharply and unevenly narrowed, in places with an intermittent lumen, their walls are thickened. Veins are twisted. In the region of the macula, the retina is thickened, unevenly pigmented. Separate small atrophic foci at the site of resolved hemorrhages.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 4

Patient N, 47 years old, time manager. The patient considers himself to be within the last 5 years, when pains first appeared in the small joints of the hands, elbow joints, noted a moderate swelling of these joints, but did not go to the doctor, took analgesics. In the same period, she began to notice the appearance of persistent erythema on the cheeks and nasal dorsum in the spring-summer period, periodically, for no apparent reason, the body temperature rose to low grade fever. After 4 years from the onset of the disease, the patient began to notice pain in almost all joints, in the lumbar region. She was treated on an outpatient basis for lumbosacral osteochondritis, took NSAIDs, physiotherapy with little effect. Over the past 6 months, she began to notice shortness of breath with little physical exertion, swelling of the legs in the evening, pain in the right hypochondrium and in the right half of the chest, she lost 10 kg. 2 weeks before going to the doctor, she noticed an increase in the size of the abdomen, the appearance of pain behind the sternum of a constant nature, dyspnea began to bother at rest, decreased while sitting, the temperature rose daily to 38-38.5°C. From an outpatient appointment, the patient was sent to the hospital.

On objective examination: a state of moderate severity, low nutrition, pale skin, erythema on the cheeks and nasal bridge. Moderately enlarged posterior cervical, axillary lymph nodes are mobile, elastic, painless. When examining the joints, there is a slight defiguration of the paroxysmal interphalangeal, metacarpophalangeal joints, deformities of the joints are not observed, palpation is moderately painful. Percussion of the chest revealed a shortening of the percussion sound in the lower parts to the right of the level 4 of the intercostal space,

in the bluntness zone, breathing is not carried out, above the dullness, sonorous fine-bubbling rales are heard, the respiration rate is 26 / min. The left border of relative cardiac dullness in the 5th intercostal space along the mid-clavicular line, the tones are muffled, rhythm is regular, pericardial friction noise is heard, heart rate is 100 per minute, blood pressure is 110/60 mm Hg. The abdomen is enlarged, flattened, with percussion, dullness is determined along the lateral flanks of the abdomen, shifting downward with a change in body position. The liver protrudes from under the costal arch by 3 cm. Swelling of the legs. The symptom of tapping on the 12th rib is positive on both sides.

Complete Blood Count: RBC – $4,6x10^{12}$/L, Hb –87 g/L, MCH – 27 pg/cell, WBC – $2,6x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 71%, lymphocytes – 13%, monocytes – 6%, eosinophil – 2%, PLT – $40,0x10^{9}$/L, ESR – 45 mm/h.

General urine analysis: clear, slightly acidic, protein - 0.99 g / l, no sugar, leukocytes - 2-6 in field of vision, erythrocytes - 4-8-12 in field of vision, hyaline cylinders - 2-4 in field of vision. 3. Fasting glucose: 4.23 mmol / l, prothrombin index - 95%. 4. Biochemical blood test: CRP – 2 mg /l, serum iron - 20 mmol / l, rheumatoid factor - 0. 5. Immunological blood test: Circulating immune complexes - 120 units, Antibodies to native DNA - 360 IU / ml, Antinuclear factor - 1/28, homogeneous luminescence.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 5

Patient N, 18 years old, student. A month before going to the polyclinic, he had an acute respiratory viral infection, was treated on

an outpatient basis with paracetamol and amoxicillin. While taking medication, he noted pain and swelling in the knee joints, hemorrhagic rashes on the skin of the legs. After discontinuation of medications and taking antihistamines, joint pain and rashes disappeared. After 3 weeks, due to an increase in temperature to 37.0°C, he independently resumed taking amoxicillin. The condition deteriorated sharply: the body temperature rose to 38.8 ^{0}C, hemorrhagic eruptions appeared on the legs, thighs, buttocks, and the headache increased sharply.

With suspicion of meningitis, he was admitted to the infectious diseases department. After 2 days, cramping pain in the abdomen and diarrhea mixed with blood were added. Once there was vomit of the color of "coffee grounds".

On objective examination: the condition is extremely serious, the body temperature is 38.0 °C. The patient is sharply pale, emaciated. On the skin of the extensor surfaces of the legs and feet, multiple draining hemorrhagic rashes. The knee and ankle joints are deformed, movements in them are sharply painful. Rhythmic pulse, weak filling, frequency of the pulse - 110 per minute. The percussion sound is clear, pulmonary, vesicular breathing, no wheezing, respiratory rate - 24 / min. The boundaries of relative cardiac dullness are within normal limits. Heart sounds are sonorous, rhythm is regular, heart rate - 110 per minute. BP - 100/60 mm Hg. Tongue dry, coated with white bloom. The abdomen is retracted, sharply painful on superficial palpation. Stool 3-4 times a day mixed with blood. The symptom of tapping on the 12th rib is positive on both sides.

1. **Complete Blood Count:** RBC – 1,2x10^{12}/L, Hb –70 g/L, MCH – 17 pg/cell, WBC – 6,0x10^9/L, basophils – 0%, neutrophils bands – 8%, neutrophils segments – 63%, lymphocytes – 10%, monocytes – 2%, eosinophil – 7%, PLT – 214,0x10^9/L, ESR –54 mm/h.

2. General urine analysis: specific gravity - 1015, protein - 0.9 g / l, leukocytes - 1-2-3 in field of vision, erythrocytes - 50-60 in field of vision.

3. Fasting glucose: 4.07 mmol / l.

4. Biochemical blood test: AST - 5.0 units / l, uric acid - 0.29 mmol / l, rheumatoid factor - 0, CRP – 2.

5. Ultrasound of internal organs: the liver is not enlarged, echo-uniform, the vessels and ducts are not dilated, the gallbladder is free, the bend in the cervical part, the wall is not thickened, the pancreas is echo-uniform, the contour is smooth, the duct is not dilated, the kidneys are typically located, mobile, cup-shaped. The pelvic systems are enlarged, the parenchyma is preserved.

6. Fecal occult blood test is positive.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 6

Patient N, 20 years old, a 3D printing designer, turned to a family doctor at the polyclinic with complaints of severe weakness, chills with a rise in temperature to 39-40^{0}C, pouring sweat with a decrease in temperature, shortness of breath at the slightest physical exertion, arthralgia. It is known from the anamnesis that the patient suffers from a congenital heart defect - a defect of the interventricular septum in the muscular part.

Sick for a week, when 3-4 days after extraction of the molar on the right, he noted an increase in body temperature, weakness. He took antipyretic drugs without effect. Fever and weakness progressed, joined by pain in the joints, shortness of breath. An ambulance team was delivered to the hospital.

On objective examination: a serious condition, low nutrition, pale yellow skin, submandibular lymph nodes on the left are palpable - 1.5 x 2 cm, elastic, painless, on the right - 2 x 3 cm, elastic, moderately painful. Body temperature - 38.9 °C. Joints are not changed. With percussion of the chest, the percussion sound is clear, pulmonary, vesicular breathing, weakened in the lower parts, moist fine bubbling

rales, respiratory rate — 24 per min. The left border of relative cardiac dullness in the 5th intercostal space along the mid-clavicular line, the tones are muffled, rhythmic, a rough systolic murmur is heard in 3-4 intercostal space to the left of the sternum, conducted into the interscapulum region, diastolic murmur above the aorta in a standing position, heart rate - 100 per min., BP - 110/60 mm Hg. The abdomen is soft and painless. The liver protrudes from under the costal arch by 5 cm. The spleen is palpated. Swelling of the legs. The symptom of tapping on the 12th rib is positive on both sides.

1. **Complete Blood Count:** RBC – $2,6x10^{12}$/L, Hb –107 g/L, MCH – 18 pg/cell, WBC – $19,3x10^{9}$/L, neutrophils bands – 10%, neutrophils segments – 71%, lymphocytes – 12%, monocytes – 5%, eosinophil – 1%, PLT – $214,0x10^{9}$/L, ESR – 44 mm/h.

2. General urine analysis: clear, slightly acidic, specific gravity - 1008, protein - 0.066 g / l, no sugar, bile pigment - 0, leukocytes - 0-1-2 in field of vision, erythrocytes - 2-3 -5 in field of vision, epithelium - 0-1-3 in field of vision, bacteria ++, salts - uric acid.

3. Echocardiography: the aorta is not changed (d-2 cm), the aortic valve - large vegetation on the leaflets, the amplitude of opening - 1.0. The mitral valve is not changed. The left atrium is 4.0 cm. Left ventricular diastolic size of course is 4.3 cm. The systolic size is 3.0 cm. EF is 58%. The thickness of the posterior wall of the left ventricle is 1.7 sm. The thickness of the IVS is 1.5 cm. The right ventricle is 3. 0 cm. The right atrium is expanded. Signs of volume overload of the right ventricle. In the D-mode pathological flows were revealed on the aortic valve and through the defect in the interventricular the septum.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 7

Patient N, 25 years old, a marketer, turned to a family doctor at the polyclinic with complaints of pain in the knee, elbow, ankle, wrist and shoulder joints, irregular migratory nature, unmotivated general weakness, increased fatigue, low-grade fever, shortness of breath, with insignificant physical activity interruptions and a feeling of "fading" in the work of the heart.

From the anamnesis it is known that at school age she suffered an acute rheumatic fever, was treated in a hospital with penicillin. At the age of 18, she began to notice shortness of breath during physical exertion (climbing stairs to the 2nd-3rd floor, brisk walking), sometimes dull aching pains in the precordial region. She did not go to the doctor; she took valerian tincture on her own. A month before admission to the hospital, she underwent follicular sore throat, was treated with erythromycin for 6 days. Despite the disappearance of sore throat and normalization of body temperature, she did not notice a significant improvement in general well-being, weakness increased, sweating appeared, after 2 weeks, the body temperature began to rise to subfebrile, then the above complaints appeared.

On objective examination: the condition of moderate severity, the skin is pale, moist, acrocyanosis, stagnant blush on the cheeks. Hyperemia and defiguration of the left ankle and right wrist joints, all large and medium joints are painful on palpation. On auscultation of the lungs, weakening of breathing and a small amount of fine bubbling crackles in the lower parts of both lungs, respiration rate - 20 per minute. The left border of relative cardiac dullness is in the 5th intercostal space 1 cm inward from the anterior axillary line, the right border is in the 4th intercostal space 0.5 cm outward from the right edge of the sternum. The configuration of the heart is mitral. With auscultation of the heart - weakening of the first tone at the apex, the emphasis of the II tone of the pulmonary artery, a systolic murmur with a maximum at the apex is heard, carried out to the left axillary region. The tones are arrhythmic, 8-10 extraordinary contractions per minute are heard. Heart rate - 78-84 per minute. BP - 110/70 mm Hg. The liver protrudes

from under the costal arch by 6 cm, the edge is rounded, even, slightly painful on palpation. Swelling of the legs.

1. **Complete Blood Count:** RBC – 3,6x10^{12}/L, Hb –117 g/L, MCH – 25 pg/cell, WBC – 9,3x10^{9}/L, neutrophils bands – 8%, neutrophils segments – 671%, lymphocytes – 13%, monocytes – 6%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 44 mm/h.

2. General urine analysis: yellow, slightly acidic, relative density - 1008, protein - 0.066 g / l, no glucose, flat epithelium - 1-7-12 in field of vision, leukocytes - 5-7 in field of vision, erythrocytes - 0-1-5 in the field of vision, hyaline cylinders 1-3 in the field of vision.

4. Biochemical blood test: AST - 12 units / l, urea - 8.6 mmol / l, total bilirubin - 17.0 μmol / l, CRP - 1, ASLO - 750 units / ml.

5. Fasting glucose: 5.76 mmol / l.

6. Echocardiography: the aorta is not compacted, not dilated (25 mm), the left atrium is enlarged (43 mm), LV is not dilated (diastolic size - 43 mm, systolic size - 30 mm), ejection fraction - 0.58 , The interventricular septum is thickened (24 mm), The posterior wall of the LV is thickened (25 mm), the aortic valve is not changed, the mitral valve - the leaflets are compacted, in the M-mode unidirectional movement of the leaflets, incomplete closure, in the D-mode, pathological flow on the mitral valve is detected , the right ventricle is not dilated (30 mm).

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 8

Patient N, 56 years old, urban ecologist. When contacting the polyclinic, he complains of swelling and pain in the right ankle joint

and small joints of the right foot, reddening of the skin above them, restriction of movement in them.

From the anamnesis it was established that he suffered from sudden attacks of pain in the joints of the right foot for about 8 years, when for the first time against the background of relative well-being at night there appeared intense pain in the first toe of the right foot. At the same time, there was swelling, redness and increased skin temperature in the affected area. Self-administration of analgesics led to a significant reduction in pain and restoration of joint function. Subsequently, it was noticed that recurrence of arthritis of the 1st metatarsophalangeal joint occurs after holiday feasts or intense physical work. Pain in the area of the right ankle has joined in the last 6 months. Periodically, in the area of the affected joints, there is a crunch when walking, especially on an uneven surface.

On objective examination: the physique is correct, increased nutrition. In the area of the cartilaginous part of the auricles, painless dense formations measuring 0.3 x 0.2 cm, whitish at the bend, are palpated. The skin is clean, with sufficient moisture. The tissue turgor is preserved. Bone deformities are noted in the area of the 1st and 2nd metatarsophalangeal joints of the common foot with the formation of hallux valgus, combined with swelling, redness of the skin and an increase in local temperature over the same joints. The symptom of lateral compression of the right foot is positive. Slight limitation of movement of the 1st and 2nd toes of the right foot. Right ankle swollen, hot and painful on palpation. The range of active and passive movements in it is limited due to pain. Internal organs without significant visible changes. Respiratory rate 16 per minute, blood pressure 130/80 mm Hg.

1. **Complete Blood Count:** RBC – $4{,}5x10^{12}$/L, Hb –158 g/L, MCH – 27 pg/cell, WBC – $7{,}9x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $214{,}0x10^{9}$/L, ESR – 26 mm/h.

2. Fasting glucose - 4.66 mmol / l, prothrombin index - 87%. 3. Biochemical blood test: bilirubin - 13.5 mmol / l, cholesterol - 5.8 mmol / l, creatinine - 65 mmol / l. 4. Biochemical blood test for

rheumatic tests: uric acid - 589 μmol / l, CRP - 2, rheumatoid factor - 0, ASL-O - 125 units, total protein - 77.5 g / l, protein fractions - albumin - 53%, globulins A1 - 3%, A2 - 9%, beta globulins - 14%, gamma globulins - 21%. 5. General urine analysis: relative density - 1015, slightly acidic reaction, protein - 0.066 g / l, erythrocytes - 0-2 in field of vision, leukocytes - 0-2-4 in field of vision. 6. Feces on the eggs of the worm - negative. 7. Study of the synovial fluid of the knee joint: the presence of needle crystals located intracellularly and birefringent light in a polarizing microscope). 8. Aspiration of the contents of tofus - the presence of uric acid crystals. 9. Ultrasound of the kidneys - the kidneys are typically located, mobility is preserved, the calyx-pelvis complex is not changed. In the area of the cortical zone of the left kidney, foci of slightly pronounced hyperechogenicity and signs of microlithiasis are traced. 10. Computed tomography of the kidney area: foci of interstitial fibrosis and micro-calculi were found in the area of the cortical layer of the left kidney. 11. Consultation of an urologist: there is no data for microbial damage to the kidneys. The picture of renal pathology does not contradict metabolic nephropathy.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 9

Patient N, 60 years old, a loader. Upon receipt of a complaint of recurrent pain in the joints of the lower extremities, which sharply intensified with prolonged walking, physical exertion, going down stairs, a feeling of morning stiffness in them for about half an hour, crackling when moving in the knee joints, discomfort in the lumbar spine.

From the anamnesis it was found that he has been suffering from this disease for 12 years. The onset of the disease is gradual with

lesions of the knee and ankle joints, as well as the lumbar spine. Occasionally, after intense physical work in the area of the knee joints, swelling was noted, which lasted for 7-8 days and disappeared after limiting movements in the knee joints and the use of diclofenac ointment. Recently, the condition has worsened, pains in the joints and spine have become more intense and prolonged, a feeling of morning stiffness has joined.

On objective examination: the physique is correct, the nutrition is increased, it is difficult to move due to pain in the knee and ankle joints. The skin is not externally changed. Deformation of the knee joints due to the predominance of proliferative changes, the volume of active movements in them is somewhat reduced, the volume of passive movements is preserved. The ankle joints are not changed outwardly, the movements in them are preserved. There is crepitus and crackling during movements in the knee and ankle joints. Tenderness to palpation in the paravertebral region of the spine, in the knee and ankle joints.

1. **Complete Blood Count:** RBC – $4{,}6x10^{12}$/L, Hb –123 g/L, MCH – 27 pg/cell, WBC – $7{,}3x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $214{,}0x10^{9}$/L, ESR –20 mm/h.

2. Fasting glucose - 4.9 mmol / l, prothrombin index - 90%.

3. Biochemical blood test: total protein - 79.2 g / l, albumin - 53%, globulins a1 - 4%, a2 - 9%, beta globulin - 9%, gamma globulin - 25%, rheumatoid factor - 0 , uric acid - 335 μmol / L, ASL-O - 125 units, sialic acids - 2.36 mmol / L, cholesterol - 5.2 mmol / L, total bilirubin - 12.4 μmol / L, CRP - 1.

4 General urine analysis - no change. 5. Feces on the eggs of the worm - negative. 6. Synovial fluid - slight opacity, no crystals, leukocytes (less than 2000 cells / mm3, less than 25% of neutrophils).

7. Scintigraphy with technetium pyrophosphate: increasing the concentration of the drug in the upper lumbar spine, in the knee joints.

8. Thermal imaging examination of the joints: during examination in infrared rays, zones of pronounced hypothermia in the area of the knee joints are determined.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 10

Patient N, 47 years old, a recycling technologist, turned to the local polyclinic in October with complaints of aching pains in the metatarsophalangeal joints of the first toes of both feet, the right ankle and left knee joints, aggravated by the morning (upon awakening) and during movements, limitation of range of motion in the above joints, swelling of the legs and feet, episodic increase in blood pressure up to 160/110 mm Hg, aching pain in the right lumbar region.

He considers himself ill for the last 5 years, when, for the first time, against the background of complete well-being, severe burning, throbbing pains appeared in the metatarsophalangeal joint of the first toe of the left foot at about two o'clock in the morning, as a result of which the patient could not fall asleep again. Pain in the joint was accompanied by the appearance of its swelling, the skin over it turned red, became hot, taut and shiny. The body temperature rose to 38.2°C. The pain syndrome was so pronounced that it was not stopped by taking analgesics. In addition, there was a sharp restriction of movement in this joint, pain when touching it, in contact with the sheet. By morning, the intensity of the pain had noticeably weakened, but the swelling of the joint remained.

The patient did not go to the doctors, he did not receive any special treatment; after 2-3 days, pains in the first metatarsophalangeal joint of the left foot stopped completely, and a few days later the swelling of the joint also disappeared.

The second attack of the disease followed about 1 year later, with the involvement of the right ankle in the process, the pain in the joint was stereotyped, accompanied by an increase in body temperature up

to 37.5 °C, malaise; in the prodromal period, the patient noted loss of appetite, and thirst. He went to the doctor, the examination revealed accelerated ESR up to 52 mm / h, hyperfibrinogenemia (6.88 g / l), hyperuricemia (uric acid in the blood 546 μmol / l), no changes were found on the radiograph of the right ankle joint.

Later, the patient noted that the frequency of arthritis attacks was previously 1 time per year, and over time, the frequency of exacerbations of the disease increased to 3-4 times a year. In the last 3 years, episodes of increased blood pressure have been observed, pain in the lumbar region has appeared, in connection with which an ultrasound scan of the kidneys was performed, which revealed a 13 mm stone in the lower pole of the right kidney.

On objective examination (at the time of admission of the patient to the rheumatology department): a patient with increased nutrition, defiguration of the ankle joints, more pronounced on the right, plus-phalangeal joints of both feet, the skin over the joints is not changed, without local hyperthermia. Joint movement with painful restriction. Tofus up to 6 mm in diameter was found on the medial edge of the right foot.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Chapter 6. STANDARD OF ANSWERS FOR THE RHEUMATOLOGY SECTION

Clinical case No. 1

1. What is the preliminary diagnosis?

Reiter's disease, exacerbation stage. Activity of the 2nd degree. The functional ability of the joint is grade 2. Bilateral chronic conjunctivitis.

2. What additional tests would you recommend to the patient, and what are the expected results?

Biochemical blood test for rheumatic tests (level of uric acid, rheumatoid factor, ASL-O, protein fractions), ECG.

3. What is the patient's management?

The results of the therapy carried out depend on the general well-being of the patient and the stage of the pathology.

Antibacterial therapy - the appointment of broad-spectrum antibiotics from the group of tetracyclines: tetracycline, fluoroquinolones: levofloxacin, macrolides: clarithromycin, erythromycin.

Long-term and intensive antibiotic therapy can lead to a side effect - a violation of the intestinal microflora. To prevent this, simultaneously with taking antibacterial drugs, patient should take antifungal drugs - Clotrimazole, Fluconazole.

Drugs from the NSAID group - Ibuprofen, Indomethacin, Diclofenac.

Detoxification - the introduction of colloidal and crystalloid solutions, plasmapheresis.

Antihistamine therapy – Levocetirizine, Suprastin (chloropyramine).

Glucocorticosteroids - betamethasone, prednisolone.

Cytostatic drugs - Methotrexate, Cyclophosphamide.

For arthritis, NSAID ointment is used topically.

Balneotherapy and mud therapy.

4. Medical and labor expertise. Dispensary observation.

Terms of temporary disability in Reiter's disease Acute course - 30-60 days, subacute course II-III degree of activity - 35-65 days, chronic course, exacerbation - 30-35 days.

Contraindicated types and working conditions: - work associated with heavy and moderate physical labor; - labor associated with a forced position of the body, frequent bends, body vibration; - work in unfavorable meteorological conditions (in hot shops, with high humidity, gas pollution); - in the case of peripheral and Scandinavian forms of the disease, work requiring precise and small movements, with prolonged stay on the legs, is contraindicated.

Disability of the 3rd group is established if the patient has:

- moderate dysfunction of the spine and / or joints, with persisting moderate or high degree of disease activity; Functional class II; the presence of extra-skeletal manifestations of the disease with moderate impairment of body functions; absence of complications of the disease and / or therapy.

Disability of the 2nd group is established if the patient has:

- severe dysfunction of the spine and / or joints, with persisting moderate or high disease activity; Functional class III; the presence of extra-skeletal manifestations of the disease; the presence of complications of the disease and / or ongoing therapy; leading to severe dysfunction of the body.

Disability of the 1st group is established if the patient has:

- Significantly pronounced dysfunctions of the body, significantly pronounced dysfunctions of the spine / joints; Functional class IV; the presence of extra-skeletal manifestations of the disease; the presence of complications of the disease and / or ongoing therapy, leading to a significantly pronounced dysfunction of the body.

Clinical case No. 2

1. What is the preliminary diagnosis?

Ankylosing spondylitis, degree of activity 2, functional capacity of the joint 2 degree.

2. What additional tests would you recommend to the patient, and what are the expected results?

Consultation with a neurologist

3. What is the patient's management?

Treatment of ankylosing spondylitis is based on the same principles as for rheumatoid arthritis, and should be systematically prolonged and adequate to the activity and severity of the disease. In the late stage of the disease, with lesions of the hip joints, arthroplasty is indicated (to improve self-care). Clinical examination of these patients allows for systematic anti-inflammatory therapy to prevent exacerbations, preserve spinal function and overall performance. During periods of remission, X-rays of the joints and spine are performed once a year. Treatment tactics: social rehabilitation, NSAIDs, intra-articular administration of glucocorticosteroids and muscle relaxants.

4. Medical and labor expertise. Dispensary observation. The criteria and approximate terms of temporary disability are similar to those in rheumatoid arthritis (clinical and laboratory characteristics of an exacerbation of the disease, confirmed by indicators of activity II and III degrees. The duration of temporary disability, depending on the severity of exacerbations and the effectiveness of the therapy, is from 40 to 90 days exacerbations, sick leave treatment should not exceed 4 months with subsequent referral to the medical and social expertise.

Contraindicated types and working conditions: - work associated with heavy and moderate physical labor; - labor associated with a forced position of the body, frequent bends, body vibration; - work in unfavorable meteorological conditions (in hot shops, with high humidity, gas pollution); - in the case of peripheral and Scandinavian forms of the disease, work requiring precise and small movements, with prolonged stay on the legs, is contraindicated.

Disability of the 3rd group is established if the patient has:

- moderate dysfunction of the spine and / or joints, with persisting moderate or high degree of disease activity; functional class II; the presence of extra-skeletal manifestations of the disease with moderate impairment of body functions; absence of complications of the disease and / or therapy.

Disability of the 2nd group is established if the patient has:

- severe dysfunction of the spine and / or joints, with persisting moderate or high disease activity; functional class III; the presence of extra-skeletal manifestations of the disease; the presence of complications of the disease and / or ongoing therapy; leading to severe dysfunction of the body.

Disability of the 1st group is established if the patient has:

- Significantly pronounced dysfunctions of the body, significantly pronounced dysfunctions of the spine / joints; functional class IV; the presence of extra-skeletal manifestations of the disease; the presence of complications of the disease and / or ongoing therapy, leading to a significantly pronounced dysfunction of the body.

Clinical case No. 3

1. What is the preliminary diagnosis?

Nonspecific aortoarteritis, type IIa, subacute course, grade 2 activity.

2. What additional tests would you recommend to the patient, and what are the expected results?

- ECG
- ECHO-KG
- Color Doppler ultrasonography of the aorta and its branches.

3. What is the patient's management?

Conservative therapy

For drug treatment, the following can be used:

1. glucocorticosteroids,
2. cytostatic drugs,
3. modern genetically engineered biological products,
4. non-steroidal anti-inflammatory drugs,

5. antiplatelet agents and anticoagulants (prevention of thrombosis),

6. antihypertensive therapy.

Surgery

In the presence of a critical narrowing of the main arteries, patients are indicated for surgical intervention in order to restore the blood supply to the ischemic zone (catheter balloon angioplasty, if possible - stenting, endarterectomy, bypass grafting).

4. Medical and labor expertise. Dispensary observation.

The average period of temporary disability after unilateral aortofemoral and femoral-popliteal bypass grafting and thromboendarterectomy in atherosclerosis is 2.5-3 months, of which treatment and examination before surgery - 25-30 days, surgery and postoperative period - 20-25 days; follow-up treatment in the clinic - 15-20 days, in the presence of edema - up to 30 days.

Temporary disability after amputation of a limb is determined by the timing of the healing of the stump. As a rule, treatment with the issuance of a sheet of temporary disability for more than 4 months in a vascular patient is impractical: initial ischemic contractures in the hip joint, stump defects, the condition of the other limb and concomitant damage to the vessels of the heart and brain determine a long period of prosthetics and mastering of walking. Some patients, even being prosthetic, cannot use a prosthesis: a short stump, ischemia of the stump in Leriche syndrome, ischemic heart disease of III and IV functional class, Chronic heart failure III-IV (NYHA).

Contraindicated types and working conditions:

- heavy and moderate physical labor;
- labor associated with the forced position of the torso, long walking, frequent climbing stairs;
- work associated with pronounced psycho-emotional stress, fast, prescribed pace of work;
- long-term operation in conditions of significant cooling, high humidity;
- local and general exposure to vibration;
- work with vascular poisons;

- exposure to ionizing radiation.

Disability of the 3rd group is established if the patient has:

II degree of ischemia in the presence of segmental occlusions or stenosis of arteries (over 65%), ankle-brachial index less than 0.75 - 0.25

After surgical revascularization with a preserved distal block, with circulatory sub compensation.

Disability of the 2nd group is established if the patient has: III or IV degree of ischemia, ankle-brachial index less than 0.25. After surgical revascularization with a persisting distal block, with limited trophic disorders (ulcer, necrosis), circulatory decompensation;

Amputation stumps of the thigh / lower leg of one limb and IIB, III degree of ischemia of the other limb; in the presence of medical contraindications for prosthetics; ischemia of the thigh stump; with concomitant diseases with severe impairment of body functions (Chronic heart failure III- IV(NYHA), respiratory failure stage III).

Disability of the 1st group is established if the patient has: III or IV degree of ischemia, including bilateral trophic disorders, ankle-brachial index less than 0.25 in the presence of contraindications for surgery.

Amputation stumps of both thighs; malformations or diseases of the stumps; if it is impossible to use prostheses due to concomitant diseases; ischemia of the stump

Clinical case No. 4

1. What is the preliminary diagnosis?

Systemic lupus erythematosus, SELENA-SLEDAI III (high degree of activity). With damage to the blood system (anemia), skin (erythema), lungs (pneumonitis), kidneys (nephritis), serous membranes (pericarditis, pleurisy), musculoskeletal system (arthritis).

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory and instrumental research

Basic (mandatory) diagnostic examinations carried out at the outpatient level:

- Biochemical blood tests (creatinine, total protein, albumin, ALT, AST, total and direct bilirubin, total cholesterol);
- determination of the glomerular filtration rate;
- determination of anti-double-stranded DNA, C3-C4 complement components;
- Cardiolipin antigen for microprecipitation reaction;
- Chest X-ray or fluorography;
- ECG

Additional diagnostic examinations carried out on an outpatient basis:

- Echocardiography (with heart damage);
- Coagulation tests (prothrombin index, fibrinogen, ethanol test);
- Ultrasound of the abdominal organs, ultrasound of the kidneys;
- Determination of the level of potassium, sodium, determination of total alpha-amylase in serum;
- ELISA (determination of antigen and antibodies to hepatitis B and C viruses);
- ELISA (determination of total antibodies to human immunodeficiency virus);
- X-ray densitometry of the spine and proximal femur (central or axial DEXA densitometry);
- determination of lupus anticoagulant (LA1 / LA2) in blood plasma;
- etermination of antibodies to β2-glycoprotein I in blood serum by ELISA method.

3. What is the patient's management?

Non-drug treatment:

- Educational program: knowledge and skills of self-control of the disease;
- Exclusion of psycho-emotional stress, stress management skills;
- Reduction of exposure to the sun, protective equipment from ultraviolet rays;
- Active screening and treatment of concomitant, including infectious, diseases;

- During an exacerbation of the disease and when taking cytotoxic drugs - effective contraception for safe oral contraceptives. Oral contraceptives with a high estrogen content should not be taken as they may worsen SLE;
- For the prevention of osteoporosis - smoking cessation, eating foods high in calcium and vitamin D; physical exercises;
- or the prevention of atherosclerosis, diabetes: a diet low in fat and cholesterol, smoking cessation, body weight control, exercise;
- Anticipate the risk of thrombosis and the need for anticoagulant therapy.

Medication. The choice of treatment for SLE is based on an individual approach;

- depends on clinical manifestations, involvement of organs and systems, the severity of the disease;
- all patients with SLE should receive antimalarial drugs, unless they are contraindicated;
- glucocorticosteroids and cytotoxic / Immunosuppressive drugs (methotrexate, azathioprine, cyclophosphamide, mycophenolate mofetil) are used to treat more severe manifestations with significant organ involvement.

Standard therapy. Antimalarial drugs - chloroquine and hydroxychloroquine, in combination with NSAIDs - are the drugs of choice for moderate SLE. The most effective for constitutional symptoms (fatigue, fever), for complaints of musculoskeletal, skin manifestations, moderate pleurisy complaints. Reduces SLE activity by> 50% in both pregnant and non-pregnant patients, leading to> 50% reduction in mortality.

It is necessary to see an ophthalmologist before starting treatment, and then every 6-12 months of treatment. Dosage: hydroxychloroquine - 200 mg orally 2 times a day, for 3 months and then 200 mg daily. The maintenance dose should not exceed 6 mg / kg / day. Stop taking the drug if central scotoma is found at any stage of the disease. NSAIDs - in standard therapeutic doses, are generally effective for relieving the minimal symptoms of SLE - arthralgia, complaints of musculoskeletal pain, fever, headache, moderate complaints with

serositis. In patients with antiphospholipid syndrome (APS), caution is required when using COX-2 inhibitors (nimesulide, celecoxib, etc.), since they can contribute to the development of thrombosis in patients with a tendency to hypercoagulability.

4. Medical and labor expertise. Dispensary observation.

Temporary disability criteria: acute and subacute course of diffuse connective tissue disease, active phase in the chronic course of the disease, complications. The duration depends on the nature of the course, the degree of activity, the severity of visceral lesions, insufficiency of the functions of internal organs and systems, the effectiveness of treatment, on average 2-3 months, including: SLE, acute course II-III degree of activity 60-90 days, subacute the course of the I – III degree of activity is 45–55 days, the chronic course of the I – II degree of activity is 35–50 days; Systemic scleroderma, acute course II – III degree of activity 55–75 days, subacute course I – III degree of activity 30–40 days, chronic course (exacerbation) I – III degree of activity 30–45 days.

Contraindicated types and working conditions: work associated with significant physical stress, the prescribed pace, forced position of the body, during the night shift; mental work with pronounced psycho-emotional stress; work associated with exposure to insolation, cooling, vibration, temperature fluctuations in the workplace, dust and gas pollution, toxic chemical agents (arsenic, acid, alkali, etc.), radiation, allergens.

Permanent disability

III group of disability is defined by patients with diffuse connective tissue diseases with a limitation of the ability to self-service, movement, labor activity, I degree. due to moderate dysfunctions of internal organs, joints, nervous system, persisting against the background of supportive therapy in the case of a chronic, slowly progressive course of diseases of this group in persons working in contraindicated types and conditions of physical and mental labor and who need to be transferred to work on another, available professions of lower qualifications or a significant decrease in the volume of work performed.

Disability group II is defined by patients with diffuse connective tissue diseases with limited ability to self-service, movement, and work activity of the II degree due to the generalization of the process, pronounced dysfunctions of internal organs, joints, nervous system in cases of acute and subacute, as well as chronic progressive course with frequent relapses, medium or high activity of the process and insufficient effectiveness of conservative therapy. Patients in periods of relative remission in some cases can perform work at home or in specially created working conditions.

Disability group I is defined by patients with diffuse connective tissue diseases with limited ability to self-service, movement, work activity of the III degree due to the generalization of the process and pronounced disorders of the kidneys, cardiovascular system, joints, digestive and respiratory systems, central and peripheral nervous systems. Patients in such cases require constant outside care.

Clinical case No. 5

1. What is the preliminary diagnosis?

Hemorrhagic vasculitis with skin-hemorrhagic, articular, renal and abdominal syndrome. Complication: gastrointestinal bleeding.

2. What additional tests would you recommend to the patient, and what are the expected results?

The following examinations are considered the main methods for diagnosing hemorrhagic vasculitis:

- Coagulation tests: bleeding time, blood coagulation rate, platelet count.
- Identification of circulating immune complexes (CICs).
- Determination of immunoglobulins of classes A (increased) and G (decreased).
- Biochemical analysis (protein fractions, CRP, antistreptolysin O).
- General (detailed) blood test with the calculation of the absolute values of the indicators of the leukocyte formula.
- ECG
- Fibro gastroduodenoscopy,

- Consultation with an ophthalmologist and neurologist.

3. What is the patient's management?

Treatment of hemorrhagic vasculitis is carried out in a comprehensive manner, taking into account the patient's age, the degree of the disease and other characteristics of the patient's body.

Hypoallergenic diet;

Enterosorbents - prevent the absorption of harmful substances into the intestinal walls;

Antiplatelet agents- prevents the formation of blood clots, improves blood circulation through small vessels;

Antihistamines - prevent the development of allergies;

Infusion therapy - intravenous administration of drugs to cleanse the body of harmful substances;

Broad-spectrum antibacterial therapy;

Glucocorticosteroids - synthetic analogs of the hormones of the human adrenal cortex;

Non-steroidal anti-inflammatory drugs - have analgesic, antipyretic, anti-inflammatory properties;

Membrane stabilizing drugs - vitamins that restore the cell membrane, allow them to be provided with useful substances;

Cytostatic drugs - suppress the growth of tumor-like processes, activate the immune system;

Plasmapheresis is a procedure to remove harmful substances from the blood. It is carried out using special devices;

Symptomatic treatment - aimed at eliminating the symptoms caused by hemorrhagic vasculitis;

Antacids - reduce the acidity of gastric juice, reduce the risk of damage to the gastric mucosa by glucocorticoid drugs;

Antispasmodics - reduce pain that occurs as a result of muscle spasms in the periarticular tissues.

4. Medical and labor expertise. Dispensary observation.

Disability criteria: recurrent forms with visceral complications, if the duration of the disease is more than 6 months. Examination of temporary disability. During the period of exacerbation, patients are disabled until complete relief of articular and abdominal syndromes,

in the absence of fresh hemorrhagic rashes - within 7-10 days. Average terms of temporary disability: with skin form - 21 days, with skin and articular - 28 days, with abdominal - 40 days.

Medical and social expertise. Indications for referral to the medical and social expert commission: skin-articular form of hemorrhagic vasculitis, causing dysfunction of the joints of the 2-3rd degree; abdominal form of hemorrhagic vasculitis with frequent exacerbations.

Dispensary observation. Frequency of examinations by specialists: pediatrician - once every 1-2 months, hematologist - once every 2 months, dentist and otolaryngologist - once every 6 months.

When examining a family doctor need to pay attention to the presence of a hemorrhagic rash, pain in the joints, abdomen, condition of internal organs, sinuses, tonsils, teeth, discoloration of stools (black), urine (hematuria). Additional studies: general blood test - 2 times a year, general urine analysis - at least 1 time per quarter and after each acute respiratory disease, feces analysis for eggs of worms, protozoa, and occult blood; coagulation tests - as indicated. Duration of observation is 5 years. If there are no exacerbations, the child is removed from the register. Preventive vaccinations: contraindicated within 2 months.

Clinical case No. 6

1. What is the preliminary diagnosis?

Secondary infective endocarditis in the presence of congenital heart disease: ventricular septal defect. Insufficiency of the aortic valve of the 2nd degree. Chronic heart failure III (NYHA).

2. What additional tests would you recommend to the patient, and what are the expected results?

General blood analysis, general urine analysis, ECG, blood test for sterility, blood culture and antibiotic sensitivity, chest X-ray, ultrasound of internal organs.

3. What is the patient's management?

Successful treatment of infective endocarditis is based on the eradication of microbes with antimicrobial drugs. Surgery contributes to the removal of infected material and drainage of abscesses. The

intrinsic defenses have little effect, which explains the greater effectiveness of bactericidal modes in comparison with bacteriostatic ones, both in experiments in animals and in humans.

Antibiotic therapy caused by streptococci:

Standard treatment: 4 weeks. Penicillin G or Amoxicillin or Ceftriaxone 12-18 million IU per day IV in 4-6 injections, or infusion of 100-200 mg / kg / day IV in 4-6 injections 2 g / day IV or IV m once a day.

Standard treatment: 2 weeks. Penicillin G or Amoxicillin or Ceftriaxone + Gentamicin, or Vancomycin 12-18 million units / day IV in 4-6 injections, or infusion of 100-200 mg / kg / day IV in 4-6 injections 2 g / day IV or IM once a day 3 mg / kg / day IV or IM in one administration 4-5 mg / kg / day IV in one administration.

Surgery. The two main goals of surgery are complete removal of infected tissue and reconstruction of cardiac morphology, including repair or replacement of diseased valves.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. Acute infective endocarditis - 60–80 days. Subacute infective endocarditis - 90–120 days, in case of complications - registration of disability through a medical and social expert commission.

Permanent disability. Usually, the ratios of the functional class of HF and disability groups are as follows: With HF FC I according to NYHA, disability is usually not established.

With HF FC II according to NYHA, it is usually the 3rd group of disability.

With HF FC III according to NYHA - usually the 2nd group of disability.

With HF FC IV according to NYHA - 1st disability group.

Dispensary observation of patients with infective endocarditis is ideal - 1, 3, 6 and 12 months after discharge. Within six months after discharge from the hospital, monthly monitoring of the condition is recommended - the presence of infection (including blood cultures when indicated), the functional state of the valves and clinical and instrumental manifestations of heart failure (with the progression of

symptoms - consultation of a cardiac surgeon), monitoring of the side effects of antibiotic therapy. In the future, the condition is monitored once every 6 months. It is imperative to teach the patient about preventive measures, since patients who have undergone infective endocarditis are at a high risk of recurrence of the disease.

Rehabilitation of patients is aimed at restoring the optimal functional ability of the body, mobilizing compensatory mechanisms, eliminating the consequences of surgical intervention, preventing reinvasion of infection, and it is also recommended to conduct a course of antibiotic therapy (6–8 weeks). The period of rehabilitation, with the possibility of resuming work, is at least 2 months.

Clinical case No. 7

1. What is the preliminary diagnosis? Chronic rheumatic heart disease: moderate carditis, mitral valve insufficiency, arrhythmias like ventricular premature beats. Chronic heart failure FC III (NYHA)

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research.

- General blood analyses: increased ESR and positive CRP;
- bacteriological examination: detection in a smear from the pharynx, beta hemolytic streptococcus of group A (can be both with active infection and with carriage);
- serological test: increased or (more importantly) increasing in dynamics titers of antistreptolysin-O.

Instrumental research.

1. ECG: clarification of the nature of heart rhythm and conduction disorders (with concomitant myocarditis), Holter ECG monitoring.

2. Chest X-ray

3. What is the patient's management?

1st stage - inpatient treatment.

2nd stage - follow-up treatment in a local cardio-rheumatology sanatorium.

3rd stage - dispensary observation in the polyclinic.

List of essential medicines:

Antibiotic therapy

1. Amoxicillin / clavulanic acid 625 mg tablets.
2. Cefuroxime 250 mg tablets.
3. Cefixime 400 mg capsules.
4. Lincomycin 250 mg tablets.
5. Azithromycin 500 mg tablets.

Non-steroidal anti-inflammatory drugs (diclofenac 2.5% 3 ml, diclofenac 50 mg tablets, aceclofenac, nimesulide).

Glucocorticoids: Prednisolone.

List of additional medicines.

Diuretic therapy:

1. Furosemide 40 mg tablets.
2. Torasemide 5 mg, 10 mg tablets
3. Indapamide 2.5 mg capsules.
4. Hypothiazide 100 mg tablets.
5. Spironolactone 25 mg, 50 mg tablets.

Antihypertensive drugs:

1. Amlodipine 5 mg, 10 mg tablets.
2. Metoprolol 50 mg tablets.
3. Cardiac glycosides: Digoxin 25 mg tablets.

Antibiotic therapy: Benzyl penicillin is used for 10 days in adults and adolescents, 500 thousand - 1 million IU 4 times a day IM, in children 100 thousand - 150 thousand IU 4 times a day IM for 10 days. In the future, they switch to the use of prolonged-release benzyl penicillin in the secondary prophylaxis regimen. In case of intolerance to benzyl penicillin, macrolides are used.

Anti-inflammatory therapy: Glucocorticoids are used for acute rheumatic fever with severe carditis and / or polyserositis. Prednisolone is prescribed for adults and adolescents at a dose of 20 mg / day, for children - 0.7-0.8 mg / kg in 1 dose in the morning after meals until a therapeutic effect is achieved (on average, within 2 weeks). Then the dose is gradually reduced (by 2.5 mg every 5-7 days) until complete cancellation. The total duration of the course is 1.5–2 months.

4. Medical and labor expertise. Dispensary observation.

Temporary disability

Temporary disability: rheumatic fever - 3 months or more, depending on the degree of activity, the severity of carditis and other manifestations, the nature of the course, complications. In rheumatic heart diseases, temporary disability is established for the treatment of heart failure, rhythm disturbances for a period of 3 weeks to 1.5 months, surgical correction - mitral commissurotomy, prosthetics of heart valves - 4 months or more.

Contraindicated types and working conditions: work associated with significant physical and psycho-emotional stress, exposure to unfavorable microclimatic conditions, the prescribed pace, staying at a height, driving vehicles, business trips.

Permanent disability

Disability criteria: rheumatic fever, taking into account the activity, the nature of the course, the severity of carditis, damage to other organs and systems; the stage of the defect, the severity of pulmonary hypertension, the stage of heart failure, heart rhythm disturbances, complications.

III group of disability is defined by patients with a prolonged or subacute course of rheumatic fever of I degree of activity, the presence of II-III degree of mitral or aortic valve defect, in which there is passive pulmonary hypertension and heart failure of II FC according to NYHA, secondary coronary syndrome FC II, corresponding to the severity of angina pectoris, mild or moderate cardiac arrhythmias; reduction of the ejection fraction to 45%, regurgitation of the II degree, according to echocardiography. The recognized invalids of the III group may be recommended to work with mild physical and moderate psycho-emotional stress in favorable working conditions.

II group of disability is defined in patients with rheumatic fever with high activity of a protracted or continuously recurrent course, severe damage to the myocardium, central nervous system; the presence of III-IV stages of mitral or aortic valve defect with the development of active pulmonary hypertension and heart failure FC III according to NYHA, secondary coronary syndrome corresponding to the severity

of FC III angina pectoris, moderate or severe heart rhythm disturbances; cardiomegaly, low ejection fraction (35–40%), grade III regurgitation. Persons recognized as disabled of the II group, in some cases, may be assigned a labor recommendation for work in specially created conditions, at home.

I group of disability is defined by the patient in the case of the terminal stage of the defect, when irreversible disturbances of intracardiac hemodynamics develop, heart failure of the FC IV according to NYHA), leading to the limitation of the ability to self-service, movement, work activity of the III degree, social insufficiency, the need for constant extraneous help or care.

Dispensary observation. Patients with rheumatic fever (active phase) are monitored by a family doctor or a general practitioner. Observation frequency: 4 times a year. Examinations by doctors of other specialties: cardiologist - 2 times a year, otolaryngologist, dentist - 1 time per year, ophthalmologist - 1 time in 2 years. Cardiac surgeon - according to indications. Neuropathologist - in the presence of chorea and focal neurological symptoms, gynecologist - according to indications.

Name and frequency of laboratory and other diagnostic tests: general blood analysis - 4 times a year, general urine analysis - 2 times a year, chest X-ray - 2 times a year (according to indications - more often), ECG - 2 times per year (according to indications - more often), indicators of inflammatory activity (fibrinogen, CR-P, ASL-O) - 2 times a year, echocardiography - according to indications.

The main therapeutic and recreational activities: drug treatment (NSAIDs, digitalis drugs, potassium, diuretics - according to indications). Remediation of foci of infection. Improvement in the dispensary. In case of an acute course, exacerbation, inpatient treatment is mandatory.

Criteria for the effectiveness of clinical examination: a decrease in the frequency of relapses, a decrease in temporary disability, a decrease in primary disability, stable remission, removal or change of the disability group, transfer to the II group of dispensary observation. Patients with rheumatic fever (inactive phase) (D II) are monitored

by a family doctor or general practitioner. Observation frequency: 1-2 times a year.

Examinations by doctors of other specialties: cardiologist - 2 times a year, otolaryngologist, dentist - 1 time per year, cardiac surgeon, neurologist, ophthalmologist - according to indications.

Name and frequency of laboratory and other diagnostic tests: 2 times a year, indicators of inflammatory activity (fibrinogen, CR-P, ASL-O), chest x-ray, ECG - once a year, echocardiography - as indicated. The main therapeutic and recreational activities: sanitation of foci of infection, anti-relapse treatment, spa treatment - according to indications. Treatment in the dispensary. Criteria for the effectiveness of clinical examination: stable remission. Preservation of the ability to work.

Clinical case No. 8

1. What is the preliminary diagnosis?

Chronic tofus gout, chronic gouty arthritis in the acute stage, oligo arthritis of the 1st and 2nd right metatarsophalangeal joints and the right ankle joint, grade 1–2 activity. Gouty nephropathy. Secondary oligo osteoarthritis of the 1st and 2nd metatarsophalangeal and ankle joints on the right.

2. What additional tests would you recommend to the patient, and what are the expected results?

Serum uric acid testing is recommended in all patients with suspected gout.

The specificity of the method of polarizing microscopy for the demonstration of crystals is extremely high (close to 100%), which makes it possible to consider the method as the “gold standard” for diagnosing gout. The absence of monosodium urate crystals in the synovial fluid does not completely exclude the diagnosis of gout (the sensitivity of the method is only 70%). Diagnosing gout without looking for monosodium urate crystals remains inaccurate, highlighting the importance of studying synovial fluid for diagnostic purposes in clinical practice.

All patients with suspected septic arthritis are advised to perform Gram stain and culture of the synovial fluid, even if monosodium urate crystals are identified. According to population data, the likelihood of developing septic arthritis with gout is almost three times higher. The similarity of the clinical picture of these diseases does not make it possible to establish a diagnosis based only on clinical data.

It is recommended, in the absence of the possibility of conducting polarizing microscopy for the diagnosis of gout, to use the presence of a combination of clinical symptoms, laboratory data and methods of radiation diagnostics.

Instrumental research. For a qualitative diagnosis of gout, it is recommended to use the following principles of using instrumental methods:

1. All patients, if it is impossible to study the synovial fluid by the method of polarizing microscopy, it is necessary to conduct an ultrasound examination of the joints. This method can be used for early diagnosis of gout, including at the preclinical stage of the disease, since some patients with hyperuricemia have typical ultrasound signs of gout ("double contour", a type of "blizzard" in the synovial fluid, hyperechoic heterogeneous lesions surrounded by anechoic edges - tophus) can be detected earlier than the disease manifests itself with an acute attack of arthritis.

2. It is not recommended to carry out X-ray examination of joints in the early stages of the disease. X-rays are helpful in the differential diagnosis and may show typical signs of chronic gout, but are not helpful in the early diagnosis of gout. In acute gouty arthritis, X-ray changes, as a rule, are determined after 7-10 years from the onset of the disease, are not always detected even in patients with chronic arthritis and refer to late manifestations of the disease. Radiography is quite justified for the differential diagnosis with injuries, other diseases of the musculoskeletal system, etc. Formation of intraosseous tophi often occurs simultaneously with subcutaneous tophi, therefore, x-ray examination is also used to determine the severity of tophi.

3. Conducting computed and magnetic resonance imaging is recommended only if you suspect an atypical location of the tophi. Their

presence can be established using computed tomography: the presence of soft tissue deposits of intermediate density, intraosseous erosions (tofus) and magnetic resonance imaging: the presence of soft tissue deposits on T1 or T2 sequential images.

3. What is the patient's management?

1. Conservative treatment. The goal of conservative therapy is the relief of acute or chronic arthritis and further prevention of arthritis attacks, as well as the prevention of the formation and dissolution of the existing crystals of monosodium urate.

When prescribing treatment, a combination of non-pharmacological and pharmacological methods is more effective than monotherapy. When prescribing therapy, it is necessary to take into account the clinical phase of the disease (acute attack of arthritis, chronic arthritis, tophus form), serum uric acid level and the frequency of arthritis attacks, the presence of comorbid diseases and risk factors for hyperuricemia.

NSAIDs or colchicine or glucocorticoids are recommended for all patients as the first line of treatment for acute arthritis.

Intra-articular or intramuscular administration of glucocorticoids is recommended, medium doses of oral glucocorticoids are prescribed with rapid withdrawal (30–35 mg of prednisolone per day for 3-5 days with complete withdrawal of the drug within 10–14 days).

In patients with severe tofus gout, a serum uric acid level of <300 μmol / L is recommended. Long-term (over several years) maintenance of serum uric acid levels below 180 μmol / L is not recommended.

For patients with normal renal function, allopurinol is recommended as the first line of therapy. It is also recommended to prescribe the drug in an initially low dose (50-100 mg daily), followed by an increase (if necessary) of 100 mg every two to four weeks, which is especially important in patients with renal insufficiency.

In patients with impaired renal function, it is recommended to adjust the maximum dose of allopurinol depending on the glomerular filtration rate. In case of the development of adverse reactions associated with the use of allopurinol, as well as if the target level of uric

acid in the blood serum is not achieved when using the maximum permissible doses of allopurinol, it is recommended to prescribe other xanthine oxidase inhibitors (febuxostat).

Febuxostat can be used in patients with mild to moderate renal failure, its effectiveness in influencing serum uric acid levels when using medium doses of drugs exceeds that of allopurinol. In patients with gout with reduced renal function, febuxostat is more likely than allopurinol to achieve the target uric acid level.

2. Surgical treatment of gout is not the main one; removal of tophi is recommended in cases when they lead to the development of severe complications (eg: tunnel syndromes, spinal compression), functional disorders.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. Issuance of a certificate of incapacity for work is advisable in the following cases: with severe pain syndrome, which can be stopped only with the help of drugs; with the development of complete or partial immobility or stiffness in the affected joint or group; with a significant decrease in the patient's performance, both due to the gouty arthritis itself, and due to the accompanying symptoms.

The maximum period for which a sheet is opened at a time is 15 days. When issued by a paramedic, the maximum duration is 10 days. If during this time the attack has not been stopped, the patient is referred to a medical commission. Taking into account all extensions, an employed citizen can be on sick leave with breaks for no more than 10 months. In case of an unfavorable prognosis, after 4 months without a break, the patient can be sent for a medical and social examination to resolve the issue of permanent incapacity for work (disability).

Permanent disability

Group III is established for patients with permanent, moderately severe functional disorders, which lead to a moderate limitation of working capacity and quality of life. This group allows you to live without outside help, not depending on other people. Help from social services is needed.

II group of disability. It is established for a certain category of patients who, in comparison with group I, have minor functional impairments. In the area of the joints, limitation of the range of motion is partial. Such people do not require outside supervision and are capable of self-service. This group allows you to work subject to a certain work schedule with a reduction in the length of the working day, additional breaks, norms, and so on (transition from III degree of disability to II and even I).

Group I is the most difficult in terms of the quality of physical condition. It includes people who are not able to serve themselves in everyday life, to move without assistance (the presence of III degree of limitation of life activity). In the area of the joints, a complete limitation of the range of motion. For them, special conditions are created that allow them to carry out certain labor activities. Example: People with disabilities in wheelchairs may be able to perform certain types of work at home.

Dispanserisation. A family doctor or general practitioner observes gout (acute and chronic gouty arthritis). Observation frequency: with minimal activity - 2 times a year. Examinations by doctors of other specialties: therapist, urologist - 2 times a year, surgeon, orthopedist - according to indications, rheumatologist - 3 times a year, otolaryngologist, dentist, gynecologist, ophthalmologist - 2 times a year; neuropathologist, psychiatrist, nephrologist - according to indications.

Name and frequency of laboratory and other diagnostic tests: general blood test and general urine analysis - 2 times a year, uric acid - 2 times a year, urea or creatinine, liver function tests, liver enzymes, bilirubin - once a year. X-ray of joints - once a year according to indications. Ultrasound examination of the kidneys.

The main medical and recreational activities. Recommendation for rational nutrition (table number 6: low calorie intake, restriction of meat, fish products, animal fats, sugar), inadmissibility of taking alcoholic beverages. Drug treatment - drugs that reduce hyperuricemia, taking NSAIDs, physiotherapy, spa treatment using‘;;; [[‘]; sulfurous, radon baths (in the absence of contraindications). According to indications - inpatient treatment. Rehabilitation of the focus of intestinal infection.

Clinical case No. 9

1. What is the preliminary diagnosis?

Primary polyosteoarthritis, non-nodular, bilateral gonarthrosis of the III degree, slowly progressive course, spondylosis, functional joint insufficiency of the 2nd degree.

2. What additional tests would you recommend to the patient, and what are the expected results?

General blood analysis, biochemical blood test for rheumatic tests (rheumatoid factor, ASL-O, uric acid level, protein fractions), blood glucose, prothrombin index, feces for worm eggs, immunological blood test for immunoglobulins A, G, M, study of synovial fluid, scintigraphy with technetium pyrophosphate, thermal imaging examination of the joints, ECG, X-ray of the lumbar spine and knee joints.

3. What is the patient's management?

Treatment goals:

1. To provide patients with understanding of their disease and the ability to manage it: lifestyle changes, the use of physical exercises that support the function of the joints, protection of the joints.

2. Reduce pain.

3. Improve the functional state of the joints and prevent the development of joint deformation and disability of the patient.

4. To improve the quality of life of patients.

5. Prevent further destruction of the articular cartilage.

6. To avoid side effects of pharmacotherapy and exacerbation of concomitant diseases.

Orthopedic appliances. Knee pads that fix the knee in the valgus position, orthopedic insoles with the lateral edge raised by 5–10 reduce the load on the medial parts of the knee joint, have an analgesic effect and improve the function of the joints. Knee braces for varus deformity reduce pain, improve functional activity and quality of life. Elastic knee pad relieves pain and improves proprioceptive feeling. For the purpose of mechanical unloading of the joints, walking with a cane, in the hand opposite to the affected lower limb, is recommended (there are no special studies on this; however, the use of a cane

is included in international recommendations). A brace and splinting of the 1st carpometacarpal joint eliminate subluxation and improve hand function.

NSAIDs are used only during the period of pain intensification; for pain relief, the minimum effective doses are prescribed and, if possible, not for a long time. Patients should be informed in detail about the advantages and disadvantages of NSAIDs, including over-the-counter drugs. All NSAIDs in equivalent doses have similar efficacy, the choice of NSAIDs is primarily determined by its safety in a specific clinical setting. Gastrointestinal complications are the most serious side effects of NSAIDs. Their relative risk: NSAIDs are used in the lowest effective dose and are prescribed for the shortest possible time.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. The average period of temporary disability with reactive synovitis is 3 weeks, with a breakthrough of a cyst and the development of reactive arthritis, these periods can be extended to 4–6 weeks. With osteotomy of the hip, the period of temporary disability is 6–8 months; with bilateral total arthroplasty, the duration of temporary disability should not exceed 2-3 months. followed by referral to medical and social expertise; a certificate of incapacity for work is issued for the period of spa treatment as a stage of complex treatment.

Indicated types and working conditions: for patients with osteoarthritis, work associated with significant and moderate physical stress (bricklayer, concrete worker, lumberjack, etc.), forced body position or a given pace of work (fitter, electric gas welder, conveyor worker, etc.) is contraindicated, shaking, vibration, staying at a height, long walking, in unfavorable weather conditions (blacksmith, foundry, fisherman, animal worker, etc.), with constant standing (plasterer-painter, asphalt worker, salesman, waiter, hairdresser, etc.) , as well as professions with local loads on the lower extremities in the form of pedaling (drivers, excavators, crane operators, etc.).

Permanent disability. Disabled group III should be recognized as patients with moderate impairment of static-dynamic function, performing work associated with significant physical stress, constant stay on the legs; patients with severe impairment of static-dynamic

function, whose work is associated with moderate or significant physical stress, prolonged stay on their feet.

Disabled group II should be recognized as patients with significantly pronounced impairment of static-dynamic function in the stage of decompensation; patients with an unfavorable type of disease course (rapidly progressive type with frequent, prolonged or protracted exacerbations). It is possible to recommend work in specially created conditions with light physical stress, at which energy consumption does not exceed 9.24 kJ / min (1st category of labor), the time spent in one position is no more than 25% of the working time, walking is no more than 10% of the working time.

Disability of group I is determined by patients with deforming arthrosis with limitation of life activity of the III degree to movement and self-service (inability to self-service, need for constant outside help and complete dependence on other persons; inability to move independently and need constant help from others).

Dispensary observation. A family doctor or a general practitioner observes deforming osteoarthritis (with lesions of large joints). Observation frequency: 2-3 times a year. Examinations by doctors of other specialties: therapist - once a year; orthopedist - 2 times a year.

The name and frequency of laboratory and other diagnostic tests: complete blood count, in the presence of synovitis, according to indications, general urine analysis - 2 times a year, ECG - 1 time per year. Joint X-ray - once a year

The main therapeutic and recreational activities: in the presence of pain and reactive synovitis - taking non-steroidal anti-inflammatory drugs in short courses (8-10 days), intraarticular steroids, counterbalance; physiotherapy - according to indications; Therapeutic physical culture, muscle massage - 2 times a year, sanitary and spa treatment - annually (in the absence of contraindications), according to indications - inpatient treatment. Criteria for the effectiveness of clinical examination: a decrease in the frequency of relapses, a decrease in temporary disability, a decrease in primary disability, stable remission, removal or change of the disability group, transfer to the II group of dispensary observation.

Clinical case No. 10

1. What is the preliminary diagnosis?

Primary chronic tofus gout. The pathogenetic type of gout can be indicated after an additional laboratory study of the serum level of uric acid and its excretion in the urine.

2. What additional tests would you recommend to the patient, and what are the expected results?

Serum uric acid testing is recommended in all patients with suspected gout.

For all patients to make a definite diagnosis of gout, it is recommended to identify crystals of monosodium urate in the synovial fluid or in the contents of tofus. The specificity of the method of polarizing microscopy for the demonstration of crystals is extremely high (close to 100%), which makes it possible to consider the method as the "gold standard" for diagnosing gout. The absence of monosodium urate crystals in the synovial fluid does not completely exclude the diagnosis of gout (the sensitivity of the method is only 70%). Diagnosing gout without looking for monosodium urate crystals remains inaccurate, highlighting the importance of studying synovial fluid for diagnostic purposes in clinical practice.

All patients with suspected septic arthritis are advised to perform Gram stain and culture of the synovial fluid, even if monosodium urate crystals are identified. According to population data, the likelihood of developing septic arthritis with gout is almost three times higher. The similarity of the clinical picture of these diseases does not make it possible to establish a diagnosis based only on clinical data.

It is recommended, in the absence of the possibility of conducting polarizing microscopy for the diagnosis of gout, to use the presence of a combination of clinical symptoms, laboratory data and methods of radiation diagnostics.

Instrumental research. For a qualitative diagnosis of gout, it is recommended to use the following principles of using instrumental methods:

1. All patients, if it is impossible to study the synovial fluid by the method of polarizing microscopy, it is necessary to conduct an ultrasound examination of the joints.

2. It is not recommended to carry out X-ray examination of joints in the early stages of the disease. X-rays are helpful in the differential diagnosis and may show typical signs of chronic gout, but are not helpful in the early diagnosis of gout. In acute gouty arthritis, X-ray changes, as a rule, are determined after 7-10 years from the onset of the disease, are not always detected even in patients with chronic arthritis and refer to late manifestations of the disease. Radiography is quite justified for the differential diagnosis with injuries, other diseases of the musculoskeletal system, etc. Formation of intraosseous tophi often occurs simultaneously with subcutaneous tophi, therefore, x-ray examination is also used to determine the severity of tophi.

3. Conducting computed and magnetic resonance imaging is recommended only if you suspect an atypical location of the tophi. Their presence can be established using computed tomography: the presence of soft tissue deposits of intermediate density, intraosseous erosions (tophus) and magnetic resonance imaging: the presence of soft tissue deposits on T1 or T2 sequential images.

3. What is the patient's management?

1. Conservative treatment. The goal of conservative therapy is the relief of acute or chronic arthritis and further prevention of arthritis attacks, as well as the prevention of the formation and dissolution of the existing crystals of monosodium urate.

When prescribing treatment, a combination of non-pharmacological and pharmacological methods is more effective than monotherapy. When prescribing therapy, it is necessary to take into account the clinical phase of the disease (acute attack of arthritis, chronic arthritis, tophus form), serum uric acid level and the frequency of arthritis attacks, the presence of comorbid diseases and risk factors for hyperuricemia.

NSAIDs or colchicine or glucocorticoids are recommended for all patients as the first line of treatment for acute arthritis.

Intra-articular or intramuscular administration of glucocorticoids is recommended, medium doses of oral glucocorticoids are prescribed with rapid withdrawal (30–35 mg of prednisolone per day for 3-5 days with complete withdrawal of the drug within 10–14 days).

In patients with severe tofus gout, a serum uric acid level of <300 μmol / L is recommended. Long-term (over several years) maintenance of serum uric acid levels below 180 μmol / L is not recommended.

For patients with normal renal function, allopurinol is recommended as the first line of therapy. It is also recommended to prescribe the drug in an initially low dose (50-100 mg daily), followed by an increase (if necessary) of 100 mg every two to four weeks, which is especially important in patients with renal insufficiency.

In patients with impaired renal function, it is recommended to adjust the maximum dose of allopurinol depending on the glomerular filtration rate. In case of the development of adverse reactions associated with the use of allopurinol, as well as if the target level of uric acid in the blood serum is not achieved when using the maximum permissible doses of allopurinol, it is recommended to prescribe other xanthine oxidase inhibitors (febuxostat).

Febuxostat can be used in patients with mild to moderate renal failure, its effectiveness in influencing serum uric acid levels when using medium doses of drugs exceeds that of allopurinol. In patients with gout with reduced renal function, febuxostat is more likely than allopurinol to achieve the target uric acid level.

2. Surgical treatment of gout is not the main one; removal of tophi is recommended in cases when they lead to the development of severe complications (eg, tunnel syndromes, spinal compression), functional disorders.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. Issuance of a certificate of incapacity for work is advisable in the following cases: with severe pain syndrome, which can be stopped only with the help of drugs; with the development of complete or partial immobility or stiffness in the affected joint or group; with a significant decrease in the patient's performance, both

due to the gouty arthritis itself, and due to the accompanying symptoms.

The maximum period for which a sheet is opened at a time is 15 days. When issued by a paramedic, the maximum duration is 10 days. If during this time the attack has not been stopped, the patient is referred to a medical commission. Taking into account all extensions, an employed citizen can be on sick leave with breaks for no more than 10 months. In case of an unfavorable prognosis, after 4 months without interruption, the patient may be referred for a medical and social examination to resolve the issue of permanent disability (disability).

Permanent disability

Group III is established for patients with permanent, moderately severe functional disorders, which lead to a moderate limitation of working capacity and quality of life. This group allows you to live without outside help, not depending on other people. Help from social services is needed.

II group of disability. It is established for a certain category of patients who, in comparison with group I, have minor functional impairments. In the area of the joints, limitation of the range of motion is partial. Such people do not require outside supervision and are capable of self-service. This group allows you to work subject to a certain work schedule with a reduction in the length of the working day, additional breaks, norms, and so on (transition from III degree of disability to II and even I).

Group I is the most difficult in terms of the quality of physical condition. It includes people who are not able to serve themselves in everyday life, to move without assistance (the presence of III degree of limitation of life activity). In the area of the joints, a complete limitation of the range of motion. For them, special conditions are created that allow them to carry out certain labor activities. Example: People with disabilities in wheelchairs may be able to perform certain types of work at home.

Dispensary observation. A family doctor or general practitioner observes gout (acute and chronic gouty arthritis). Observation frequency: with minimal activity - 2 times a year. Examinations by

doctors of other specialties: Therapist, urologist - 2 times a year, surgeon, orthopedist - according to indications. Name and frequency of laboratory and other diagnostic tests: general blood analysis and general urine analysis - 2 times a year, uric acid - 2 times a year, urea or creatinine, liver function tests, liver enzymes, total bilirubin - once a year. X-ray of the joints - once a year. According to indications - ultrasound examination of the kidneys.

The main medical and recreational activities. Recommendation for rational nutrition (table number 6: low calorie intake, restriction of meat, fish products, animal fats, sugar), inadmissibility of taking alcoholic beverages. Drug treatment - drugs that reduce hyperuricemia, taking NSAIDs, physiotherapy, spa treatment using sulfurous, radon baths (in the absence of contraindications). According to indications - inpatient treatment. Rehabilitation of the focus of intestinal infection.

Chapter 7. GASTROENTEROLOGY SECTION

Clinical case No. 1

Patient N, 25 years old, a sound engineer, turned to the family doctor at the polyclinic with complaints of pain in the epigastric region and slightly to the left of the midline, arising 1-1.5 hours after eating and ceasing after evacuation of food from the stomach. Late, "hungry" and nocturnal pains are also observed. Pain sensations, as a rule, are aching in nature and are of moderate intensity. And also often disturbed by heartburn, sour belching, nausea, irritability, weakness, loss of appetite.

The above complaints appeared about five months ago. In the last month, dizziness began to be noted, especially with a change in body position, weakness increased. The wife noticed the pallor of the skin. The patient ate irregularly, dry food for a long time, periodically noted pain in the stomach, but did not consult a doctor. From the anamnesis of life it is known that chronic diseases - underweight, astigmatism of the left eye, atopic dermatitis. Heredity is burdened by the mother: duodenal ulcer, by the father: chronic colitis. I was not sick with tuberculosis. ARVI is sick 1-2 times a year. Smokes 1 pack a day.

On objective examination: body mass index - 16. The skin and mucous membranes are pale, clean. In the area of the lower leg - varicose veins. Vesicular breathing, no wheezing. Heart sounds are clear, rhythmic. BH - 15 per minute. Heart rate 68 in 1 minute, BP 110/70 mm Hg. Art. Tongue moist, slightly coated with white bloom. The abdomen is painful on palpation in the epigastrium, there is also a slight muscle tension, a positive Mendel's symptom. The liver is not enlarged, the symptoms of cholecystitis are negative. Stool - a tendency to constipation.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 2

Patient N, 32 years old, a DJ, turned to the family doctor at the polyclinic with complaints of dull, aching pain in the right hypochondrium, which usually occurs 1-3 hours after eating abundant, especially fatty food, and fried foods, a feeling of bitterness in the mouth , belching with air, nausea, bloating, erratic stools.

From the anamnesis it is known that chronic diseases - obesity of the 1st degree, chronic cystitis. Heredity is burdened by the mother: hypertension of the 2nd degree, by the father: chronic otitis media of the left ear. She suffered from tuberculosis at the age of 3, was observed by a phthisiologist for 2 years, after which she was removed from the register. ARVI is sick 1-2 times a year. Smokes 1 pack a day, drinks energy drinks. The above complaints have been troubling for 5 years.

On objective examination: body temperature is 37.2 °C. The general condition is satisfactory. The skin and visible mucous membranes are clean, pink in color. The subcutaneous fat is overdeveloped. BH 15 per minute, heart rate 78 per minute, blood pressure 130/80 mm Hg. Art. Lungs and heart without pathology. The tongue is coated with a yellowish brown coating. The abdomen is soft, moderately painful on palpation in the right hypochondrium. The liver and spleen are not palpable.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 3

Patient N, 25 years old, animator, turned to the family doctor at the polyclinic with complaints of dull, bursting pains around the navel, arising 3-4 hours after eating, bloating, strong rumbling in the abdomen, abundant loose stools 2-3 times a day, weakness, fatigue, weight loss.

The above complaints have been troubling for 2 years. Milk intolerance is noted. The deterioration of the condition is provoked by the intake of spicy food. From the anamnesis it is known that he denies chronic diseases. Heredity is not burdened. I did not suffer from tuberculosis. ARVI is sick 3-4 times a year. Does not smoke, does not drink.

On objective examination: body temperature is 36.9 ° C. The condition is satisfactory. The skin and visible mucous membranes are clean, pale, dry. In the corners of the mouth, "seizures" are determined. The subcutaneous fat layer is underdeveloped. BH 13 per minute, heart rate 81 in 1 minute, blood pressure 110/70 mm Hg. There is no pathology on the part of the lungs and heart. Tongue moist, coated with a whitish bloom. The abdomen is soft, moderately painful in the umbilical region.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 4

Patient N, 33 years old, a hotel administrator, turned to the family doctor at the polyclinic with complaints of chills, weakness, headache,

fatigue, nausea, intense pain in the right hypochondrium that arose last night after consuming fatty meat and continued with short interruptions throughout the night. The pain intensifies when changing the position of the body, turning, bending.

From the anamnesis it is known that at the age of 7 years the patient suffered from hepatitis A, after which, for several years, she noted episodes of pain in the right hypochondrium after fatty foods, sometimes accompanied by vomiting. At the age of 19, when analyzing bile obtained with duodenal intubation, a large number of leukocytes were found in portions B and C. She was repeatedly treated in sanatoriums, took choleretic drugs. According to the patient, the repeated ultrasound of the biliary tract "revealed sand". I felt satisfactory. The patient has a history of 6 pregnancies that ended in normal urgent labor. The patient is currently 20 weeks pregnant.

Heredity is not burdened by the mother: at the age of 46, she was diagnosed with calculous cholecystitis. She did not suffer from tuberculosis. ARVI is sick 1-2 times a year. Does not smoke, does not drink.

On objective examination: hypersthenic constitution, increased nutrition (body mass index - 33 kg / m2), clean skin, icterus sclera, body temperature 39 ° C. BH 18 per minute, heart rate 100 per minute, blood pressure 135/85 mm Hg. There is no pathology on the part of the lungs and heart. The liver does not protrude from under the costal arch, soft-elastic consistency, palpation is sharply painful. Sharply positive symptoms of Georgievsky - Mussey, Ortner, Murphy, Lepene. The abdomen is slightly distended. The spleen is not palpable.

Complete Blood Count: RBC – 4,2x10^{12}/L, Hb –140 g/L, MCH – 27 pg/cell, WBC – 15x10^{9}/L, neutrophils bands – 11%, neutrophils segments – 53%, lymphocytes – 19%, monocytes – 12%, eosinophil – 5%, PLT – 220,0x10^{9}/L, ESR – 17 mm/h.

Total bilirubin - 2.6 mg / dL, direct - 0.5 mg / dL. Fibrinogen - 4.82 g / l. Total protein - 82 g / l, albumin - 5.6 g / l. ALT - 24 IU, AST - 18 IU, g-HT - 160 IU, alkaline phosphatase - 380 IU / L.

With esophagogastroduodenoscopy - gastroesophageal reflux, no other pathology was revealed.

With ultrasound of the abdominal organs: the liver is enlarged by 1 cm, the contours are even, the parenchyma is of normal echogenicity. Intrahepatic bile ducts are dilated, ductus choledochus - 6 mm. The gallbladder is enlarged to 5 cm in diameter, the walls are thickened, a "double contour" is revealed, an ultrasonic symptom of Mussey. In the neck of the gallbladder there is an echo-dense shadow of 1.5 cm in size. The pancreas is of normal size and shape, echogenicity is normal. The pancreatic duct is not dilated.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 5

Patient N, 53 years old, a watchmaker, turned to the family doctor at the polyclinic with complaints of pain in the epigastric region arising 20-30 minutes after eating, belching with air, and a decrease in body weight by 3 kg over the last month.

From the anamnesis it is known that the first signs of the disease appeared in the fall 3 years ago (pains began to appear in the epigastric region 30-40 minutes after eating, independently took drotaverine and maalox with a short-term effect), was not examined, drew attention to the seasonality of pain (in spring and autumn). The last deterioration in the state of health - during the last month, the pains were of the same character, at the height of the pains, irradiation to the back was observed. There was an eructation of air. To clarify the diagnosis and treatment, he entered the clinic.

On objective examination: the general condition is satisfactory. The skin and visible mucous membranes are slightly pale. In the lungs, vesicular breathing, no wheezing, rhythmic heart sounds, clear, blood pressure - 140/80 mm Hg. Pulse - 80 beats / min. The abdomen

is soft, moderate muscle tension in the epigastrium, local pain in the epigastric region. The liver and spleen are not enlarged.

Complete Blood Count: RBC – 3,8x10^{12}/L, Hb –108 g/L, MCH – 27 pg/cell, WBC – 15x10^{9}/L, neutrophils bands – 8%, neutrophils segments – 54%, lymphocytes – 20%, monocytes – 11%, eosinophil – 1%, PLT – 180,0x10^{9}/L, ESR – 15 mm/h.

With esophagogastroduodenoscopy - the esophagus is not changed, the cardia is closed completely. The stomach expands well with air. On the lesser curvature, in its middle third, there is a stellate whitish scar with a distinct convergence of folds. There is also a fresh ulcer with edematous, inflammatory-altered edges, measuring 6x8 mm. There is a blood clot deep in the ulcer. The duodenal bulb is not changed. A biopsy of the mucous membrane from the edges of the ulcer was performed. Histological examination: a picture of atrophic gastritis with symptoms of intestinal metaplasia of the epithelium, the edge of the ulcer, caught in the cut, with signs of chronic inflammation. HP was detected in a small amount. The pH-metry was not performed due to the nature of the localization of the ulcer.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 6

Patient N, 15 years old, a schoolboy, turned to the family doctor at the polyclinic with complaints of nausea, repeated vomiting, joints, weakness, anorexia.

From the anamnesis it is known that the patient was not in contact with infectious patients, 3 months ago he was treated by a dentist. The above complaints arose 3 days ago with an increase in temperature

to subfebrile numbers. At home, they were treated with paracetamol, maalox. On the 4th day of illness, the urine darkened, the feces became gray, on the 5th day they noticed yellowness of the skin and sclera.

On objective examination: the condition was severe, lethargic, at the reception there was vomiting, the temperature was normal, the skin was bright yellow, the sclera were diffusely icteric, a small hemorrhagic rash on the chest, a maculopapular rash on the back, located symmetrically. In the lungs - normal. Muffled heart sounds, pulse 60 beats and min. Tongue dryish, coated with white bloom. The abdomen is somewhat swollen, painful on palpation in the right hypochondrium and epigastrium. The liver protrudes from under the costal arch by 3 cm, densely elastic consistency, painful. The stool is discolored, the urine is "beer-colored", the amount of it is reduced.

In the biochemical analysis of blood: total bilirubin 180 mmol / L, direct -120 mmol / L, AlAT - 140 U / L, AsAT - 50 U / L, PTI - 50%. ELISA - HbsAg (+), anti-Hbs IgM, HbeAg (+).

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 7

Patient N, 82 years old, retired, consulted the family doctor at the polyclinic with complaints of weakness, rapid fatigue, weight loss, dry mouth, thirst, increased amount of urine, pruritus, bloating after eating, frequent (up to 5-6 times per day) mushy, abundant "oily appearance" with the smell of rancid oil stool, profuse diarrhea after eating milk and fatty foods. Aching pains in the left hypochondrium after eating fried, fatty and spicy foods.

Five years ago, he noted that he had ceased to tolerate fats and milk normally - diarrhea appeared. I started to lose weight. For four

years he lost 12 kg, in the last year he began to eat often due to bloating after a heavy meal. The chair became more frequent up to 4-5 times a day. Worse most often after spicy and fried foods. Taking phthalazolum and antibiotics did not bring relief. Six months ago, dry mouth, itchy skin appeared, more urine began to flow, and weakness increased. From the anamnesis it is known that the patient was born into a large peasant family, working life from the age of 12. Participant of the Second World War, since 1947 he worked as an accountant. In 1942 he suffered from stage II dystrophy. For 15 years he was treated for metabolic (gouty?) Polyarthritis. Follows a diet with a sharp restriction of meat, fish, poultry, cottage cheese. I did not smoke, did not drink alcohol.

On objective examination: a patient with low nutritional status. The skin is of normal color, dry, the turgor is reduced, in the corners of the lips - seizures. Above the lungs - a sound with a box shade, vesicular breathing, no wheezing. Pulse - 76 per minute, rhythmic, full. BP -140/80 mm Hg. The tones are clear, no noise. The abdomen is soft and participates in breathing. The liver protrudes 2 cm, along the midclavicular line, the edge is soft, rounded, painless. The spleen is not enlarged. Moderate pain on palpation of the transverse colon and sigmoid colon.

Complete Blood Count: RBC – $3,3x10^{12}$/L, Hb –61 g/L, MCH – 25 pg/cell, WBC – $6,0x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $180,0x10^{9}$/L, ESR – 35 mm/h.

Total protein - 3.5 g / l, total bilirubin - 8.5 μmol / l, no direct, cholesterol - 7.25 mmol / l, amylase - 12 mg / ml / h, glucose - 6.0 mmol / L.

In the analysis of feces - the reaction to occult blood with benzidine is negative, the reaction to stercobilin is positive, muscle fibers ++, neutral fat +++, starch ++, leukocytes, erythrocytes are absent.

Questions:

1. What is the preliminary diagnosis?

2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?

4. Medical and labor expertise. Dispensary observation

Clinical case No. 8

Patient N, 77 years old, a technologist, turned to the family doctor at the polyclinic with complaints of severity and discomfort and episodic pain in the right hypochondrium, not associated with food intake, increased general weakness, increased fatigue.

It is known from the anamnesis that the patient considers himself ill for several years, when, for the first time, during inpatient treatment in the neurology department of the National Hospital, jaundice appeared for discirculatory encephalopathy, which was not accompanied by fever or pain. Previously, ultrasound revealed small stones in the gallbladder. Diagnosed with obstructive jaundice, he was transferred to the 6th city hospital, where, against the background of detoxification therapy, his condition improved, but soon jaundice reappeared, fever up to 38.2 ° C. A cholecystectomy was performed, and a liver biopsy was performed. Histological examination revealed monolobular cirrhosis with symptoms of moderate activity in the phase of the onset of formation. The course of the postoperative period is smooth. Two months later, he noted an increase in the size of the abdomen, there was heaviness and discomfort in the right hypochondrium, yellowness of the skin and sclera, disturbances in the rhythm of sleep. At repeated hospitalizations, therapy with enzyme preparations, diuretics, intravenous infusions of hemodez solutions and 5% glucose was carried out. When trying to treat with spironolactone - dizziness, staggering when walking. The drug was canceled. Repeated laparocentesis with removal of ascitic fluid were performed. Recently, she has been constantly taking Ursofalk (250-500 mg / day).

On objective examination. The condition is relatively satisfactory. Body temperature 36.7 ° C. The skin is light, of normal moisture, the sclera are sub icteric. On the skin of the chest, abdomen, single

dim spider veins. No peripheral edema. Peripheral lymph nodes are not enlarged. In the lungs, breathing is hard, no wheezing. BH - 18 per minute. Heart sounds are muffled, rhythmic. Pulse - 70 per minute. BP - 120/80 mm Hg. The tongue is moist, not coated. The abdomen is soft, moderately painful in the epigastrium, along the colon. The liver is enlarged, protrudes 3 cm from under the costal arch along the right midclavicular line, the edge of the liver is pointed, dense, moderately painful. The spleen is enlarged, the anterior pole protrudes from under the costal arch by 0.5-1 cm, sensitive. Symptoms of Ortner, Lepene, Frenicus symptom are negative. The kidneys are not palpable. The tapping symptom is negative on both sides.

Complete Blood Count: RBC – 4,5x10^{12}/L, Hb –149 g/L, MCH – 27 pg/cell, WBC – 7,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 76%, lymphocytes – 17%, monocytes – 3%, eosinophil – 1%, basophils - 0.3%, PLT – 125,0x10^{9}/L, ESR – 6 mm/h.

In a biochemical blood test: creatinine - 1.23 mg%, inorganic phosphorus - 3.81 mg%, glucose - 4.8 mmol / l, urea nitrogen - 12 mg%, uric acid - 7.3 mg%, total bilirubin - 1.2 mg%, triglycerides -95 mg / dl, total cholesterol - 3.9 mmol / l, sodium - 139 meq / l, potassium -3.9 meq / l, calcium - 8.9 mg / dl, iron - 63 mcg / dl. Total protein - 60 g / l. Serum protein fractions: albumin - 60.3%, alpha-1 globulins - 4.2%, alpha-2 globulins - 8.4%, beta-globulins - 14%, gamma globulins - 14.0%. ACT - 59 U / L, ALT - 34 U / L, GGT - 321 U / L, ALP -120 U / L, ChE - 6143 U / L. Immunoglobulins: A - 400 mg%, M - 84 mg%, G - 840 mg%. Markers of hepatitis B and C: HBs Ag negative, HCV Ab negative.

Ultrasound examination of the abdominal cavity. Ascites. Insignificant amount. The liver is enlarged due to both lobes, the contours are even (right lobe - 219 mm, left - 101 mm). The parenchyma is homogeneous. Changed by the type of fatty degeneration. Intrahepatic bile ducts are not dilated. The gallbladder was removed. Portal vein up to 14 mm. The pancreas is hyperechoic, of normal size and structure. The main pancreatic duct is not dilated. The spleen is larger than normal, measuring 133 x 56 mm, reduced echogenicity. Splenic vein at the level of the body of the pancreas up to 9 mm. The kidneys are

not enlarged, with smooth contours. Parenchyma up to 16 mm. The sinuses are not dilated. There are no stones.

EGDS: the esophagus is freely passable, varicose veins of the 1st stage are determined, the mucous membrane is not changed. The cardia is closed. There is a moderate amount of fluid in the stomach. The folds are thickened, twisted, straightened with air. The mucous membrane is unevenly very brightly hyperemic, mainly in the antrum. Small curvature and even angle. The gatekeeper is rounded, opens completely. The duodenal bulb and the post bulbar section are not changed.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 9

Patient N, 30 years old, an actress, turned to the family doctor at the polyclinic with complaints of loose stools, general weakness.

From the anamnesis it is known that the patient has been smoking about half a pack a day since the age of 25. Two years have been observed for iron deficiency anemia of unknown origin and secondary amenorrhea. For the last six months, constant loose stools (the last week on average 4 times a day), pain in the right half of the abdomen of low intensity (aching), burning sensation in the anus during bowel movements, 1-2 times a week - a rise in body temperature to subfebrile values without visible causes. She lost 9 kg in 2 months. The brother suffers from Crohn's disease. During her residency training, she suffered two episodes of herpes zoster.

On objective examination: the general condition is satisfactory. Consciousness is clear. Active position. Body temperature 37.4 ° C. Satisfactory nutrition. Leather of normal color, clean, normal moisture.

Subcutaneous adipose tissue of homogeneous consistency, there is no edema. Hair and nails are not changed. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is well developed. The joints are not externally changed. The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm medially from the left mid-clavicular line. With percussion, the border of relative cardiac dullness is within normal limits. On auscultation, heart sounds are clear, rhythm is regular, no noise is heard. Blood pressure 120/70 mm Hg. Heart rate 86 per minute. Respiratory system. On examination, the chest is of the correct shape, symmetrical. With comparative percussion over the entire surface of the lungs, a pulmonary sound with a boxed shade is determined, the borders of the lungs are lowered by 1 rib. BH - 24 in 1 min. On auscultation over the lungs on both sides, hard breathing with an elongated exhalation is determined, against which there are dry wheezing sounds. On palpation, the abdomen is soft, painful in the right iliac region, masses are not palpable. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless. Stool and urine output are normal.

Complete Blood Count: RBC – $4,6x10^{12}$/L, Hb –92 g/L, MCH – 27 pg/cell, WBC – $11,2x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $214,0x10^{9}$/L, ESR – 24 mm/h.

C-reactive protein - 32 mg / l, total protein - 61 g / l.

Endoscopic examination in the terminal ileum revealed a picture of “cobblestone pavement”, in the caecum and ascending gut - single linear ulcers and multiple aphthae. In the cecum and ascending intestine, the areas of ulcerative lesion alternate with areas of healthy mucous membrane (a vascular pattern is traced between the ulcers).

With a biopsy from the ileum: a picture of diffuse lymphoplasmacytic infiltration of the mucous membrane and submucosa, the number of goblet cells within normal limits, as well as a fragment of the mucous membrane with a submucous layer with the presence of gap-like erosion, at the base - from granuloma fragments from epithelial cells,

lymphocytes and plasma cell necrosis in the center (conclusion: a picture of nonspecific granulomatous inflammation).

CT enterography: thickening of the wall of the ileum over 20 cm to 4 mm without areas of narrowing, 4 slightly enlarged lymph nodes with preserved structure are found in the mesentery of the ileum. There are no data for the infiltration of the abdominal cavity, interintestinal fistulas. The wall of the ascending and cecum is thickened up to 3 cm.

A digital examination in the area of the posterior crypt revealed an internal fistulous opening. Additionally, an ultrasound examination was performed with a rectal probe. It was found that from the internal fistulous opening transsphincternally there is a fistulous course about 12 mm long, ending blindly in the intersphincteric space. No streaks and branches along the course of the fistula were found.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 10

Patient N, 27 years old, a projectionist, turned to the family doctor at the polyclinic with complaints of loose stools mixed with blood and mucus, periodically - with blood clots, up to 14 times a day, pain in the left side of the abdomen, aggravated by the act of defecation, thirst, dry mouth, fever up to 38.5 ° C, weight loss, weakness, fatigue, heaviness in the right hypochondrium, pain in the sacrum, especially in a sitting position. He fell ill about 2 weeks ago, his condition gradually worsened, and the frequency of bowel movements increased.

On objective examination: the patient's height is 180 cm, body weight is 62 kg, edema of the lower extremities, skin turgor is reduced, tongue is dry, sclera icterus. Heart rate 120 per minute, blood pressure 85/60 mm Hg. Art. On palpation of the abdomen, marked

soreness of the sigmoid colon is noted. The size of the liver according to Kurlov is 10x13x7 mm, the spleen is not enlarged.

Complete Blood Count: RBC – $2,5x10^{12}$/L, Hb –95 g/L, MCH – 27 pg/cell, WBC – $10,0x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $214,0x10^{9}$/L, ESR – 8 mm/h.

Biochemical blood test: AST 45 units / l; ALT 35 units / l; ALP 760 units / l; creatinine 65 μmol / l; potassium 3.0 mmol / l; total protein 52 g / l.

Sigmoidoscopy: swelling and hyperemia of the mucous membrane, granular mucosa, contact bleeding, lack of vascular pattern, multiple erosions with fibrin overlay, bloody mucus and pus.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Chapter 8. STANDARD OF ANSWERS FOR THE GASTROENTEROLOGY SECTION

Clinical case No. 1

1. What is the preliminary diagnosis?

Preliminary diagnosis:

Peptic ulcer disease. Ulcer of the lesser curvature of the stomach. Aggravation.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research.

- complete blood count - possible anemia (with obvious or latent ulcer bleeding), leukocytosis and increased ESR in complicated forms of ulcer (with ulcer penetration, pronounced periviscerite);
- fecal occult blood test - a positive reaction indicates gastroduodenal bleeding.

Instrumental research.

- esophagogastroduodenoscopy (EGDS) - endoscopic examination confirms the presence of an ulcer defect, specifies its localization, depth, shape, size, condition of the bottom and edges of the ulcer (with mandatory biopsy and histological examination to exclude the malignant nature of ulcerative lesions when the ulcer is localized in the stomach and detecting N. pylori).
- Histological examination of biopsy specimens reveals signs of an inflammatory process - neutrophilic infiltration. It is especially important for histological examination in the presence of peptic ulcer, since an ulcer-like form of gastric cancer (GC) is often observed.
- Diagnosis of H. pylori infection. To determine further treatment tactics, the results of a study of the presence of H. pylori infection in a patient with ulcer ulcer are extremely important. Determination

of H. pylori in histological preparations or with the help of RUT in biopaths of the coolant taken with FEGDS; X-ray examination for the diagnosis of ulcer is currently not used. It is used in the following situations: impossibility for some reason (for example, the presence of contraindications) to conduct an endoscopic examination; to assess the peristalsis of the stomach wall; to assess the nature of evacuation from the stomach; to assess the degree of pyloric stenosis (with complicated course). X-ray examination reveals a direct sign of ulcer - a "niche" on the contour or relief of CO and indirect signs of the disease: local circular spasm of muscle fibers on the stomach wall opposite to the ulcer in the form of a "pointing finger"; convergence of folds to "niche"; cicatricial and ulcerative deformity of the stomach and duodenal bulb; fasting hypersecretion; motor disorders.

- A list of additional diagnostic measures: determination of serum iron in the blood and analysis of feces for occult blood - in case of anemia; Ultrasound of the liver, biliary tract and pancreas - with concomitant pathology of the hepatobiliary system; biochemical blood tests (total bilirubin and its fractions, total protein, albumin, cholesterol, ALT, AST, glucose, amylase) - with concomitant pathology of the hepatobiliary system;

3. What is the patient's management?

Peptic ulcer treatment is based on diet and eradication anti-helicobacter therapy.

The main principle of diet therapy is mechanical, chemical, thermal sparing.

We recommend frequent fractional meals 5-6 times a day in small portions. In the period of exacerbation of peptic ulcer disease, tables 1a, 16, 1 according to Pevzner are sequentially assigned.

Treatment of uncomplicated peptic ulcer disease in the active phase

The doctor is obliged to reflect the following indicators in the patient's card: allergy to penicillins, metronidazole, macrolides, tetracycline, bismuth, PPI; if possible, indicate the use of macrolides

in history for any disease; whether the patient took triple therapy, if "Yes" - from which drugs.

1st step of eradication therapy. In patients with ulcerative ulcer, who first seeks medical help, the first step is usually the appointment of triple therapy or quadrotherapy, or alternative triple regimens.

Triple therapy.

Patients with peptic ulcer disease with H. pylori infection are prescribed 7-day 3-component therapy: Amoxicillin 1 g + clarithromycin 500 mg + lansoprazole 30 mg or omeprazole 20 mg (all 2 times a day).

PPIs include the following drugs: omeprazole, lansoprazole, esomeprazole, pantoprazole, and rabeprazole. However, there is no proven difference between the effectiveness and safety of different PPIs. The choice of a specific API depends on the economic and physical availability of the funds.

Quadrotherapy (1-step therapy option).

The appointment of quadrotherapy is indicated in the following situations: 1. Quadrotherapy is preferable to those patients with ulcer who are allergic to penicillins. Amoxicillin is contraindicated in those patients who are allergic to penicillins. A patient with an exacerbation of a previously diagnosed peptic ulcer with dyspepsia, as previously received triple therapy, is immediately prescribed quadrotherapy.

Triple therapy as a 1st step therapy is used only once - at the first visit to the doctor.

The ineffectiveness of therapy indicates either the presence of antibacterial resistance in H. pylori or low compliance (adherence) to treatment in patients with ulcer. H. pylori resistance to clarithromycin and metronidazole can be primary and secondary. H. pylori resistance to amoxicillin is rare. 3. When treating patients with large ulcers (more than 2 cm) associated with H. pylori, if patients refuse surgical treatment or due to the presence of contraindications, it is advisable to immediately use quadrotherapy in the treatment of patients for 10 days. 4. Quadrotherapy has pharmacoeconomic advantages over triple therapy.

Triple alternative regimens (1st step therapy option).

In cases where there are contraindications to quadrotherapy, with physical inaccessibility, if the patient does not agree with quadrotherapy due to the large number of components, alternative triple therapies can be recommended: • Tripotassium dicitrate bismuth 240 mg 2 times a day + Clarithromycin 500 mg 2 times day + Amoxacillin 1000 mg 2 times a day (duration 7 days, eradication 93%); • Bismuth tripotassium dicitrate 240 mg 2 times + Clarithromycin 500 mg 2 times a day + Furazolidone 200 mg 3 times a day (duration 7 days, eradication -92%);

Monitoring the effectiveness of the 1st step therapy.

The dynamics of gastric ulcer healing is controlled by the endoscopic method or, if unavailable, contraindicated or refused, by the X-ray method, after 6-8 weeks (A), and DU - in the absence of a therapeutic effect within 4-6 weeks.

2nd step of eradication therapy.

In the presence of non-healing ulcer or if symptoms of duodenal ulcer persist, step 2 therapy is performed. The duration of treatment at the 2nd step is at least 10 days.

Quadrotherapy: PPI in a standard dose 2 times a day and bismuth tripotassium dicitrate 240 mg 2 times a day in combination with metronidazole 500 mg 3 times a day and tetracycline 500 mg 4 times a day.

Supportive therapy.

After the second step therapy, with a slow positive dynamics of clinical symptoms of dyspepsia, maintenance therapy with PPI / H2-histamine blockers in standard dosages is indicated until a therapeutic effect is achieved. It is necessary to revise the further tactics of patient management annually.

In cases of slow positive dynamics of clinical symptoms of dyspepsia, it is possible to additionally prescribe bismuth tripotassium dicitrate at 240 mg 2 times a day for 3-4 weeks.

On-demand therapy. The indication for this therapy is the appearance of subjective symptoms of peptic ulcer exacerbation after successful eradication of H. pylori.

PPIs or H2-blockers, antacids or alginates are used as antisecretory drugs. Antacids and alginates today are considered only as auxiliary agents used "on demand" for self-correction of a number of dyspeptic symptoms by patients (symptomatic therapy). Antacids or alginates can also be used for emergency treatment of dyspepsia at any time (A).

4. Medical and labor expertise. Dispensary observation.

Temporary disability. In case of recurrence of an ulcer, the occurrence of complications, a resection or vagotomy with resection of the antrum is performed. The degree of digestive disorders is determined by the following factors: the general condition of the patient, body weight (stable, falling), body weight deficit, pain syndrome, the severity of dyspeptic symptoms, indicators of secretory and motor-evacuation functions of the gastrointestinal tract, changes in hemogram, indicators of protein, carbohydrate and others types of metabolism and intracavitary intestinal digestion.

VUT criteria and indicative timeframes.

Any type and volume of surgical treatment of ulcer leads to disability. Its duration is determined by: the patient's condition before the operation; type and scope of the operation; the speed of compensation for impaired functions; the presence, nature and severity of complications in the early postoperative period; long-term consequences; accompanying illnesses; the age of the patients.

Average terms of VUT after various types of surgery: selective proximal vagotomy (SPV) - 40–35 days; SPV + pyloroplasty: 40–35 days; stem or selective vagotomy + pyloroplasty: 1.5–2 months; vagotomy + antrum resection: 2.5–3 months; resection 2/3 - 3/4 of the stomach: 3–3.5 months; gastrectomy: 6-8 months

Early postoperative complications and consequences of operations can lengthen the average duration of VUT. Among them, in the first place is asthenic syndrome, characterized by general weakness, irritability, poor sleep against the background of normalization of postoperative indicators. The duration of sick leave treatment in this case can be increased to 6 months, since an earlier return to professional work leads in the future to the development of persistent long-term consequences. A number of patients may develop anastomosis after

surgery, gastritis of the gastric stump, syndrome of "small stomach", postoperative wound suppuration, abscesses in the abdominal cavity, ligature fistulas. These changes, as well as the slow development of adaptation, can lead to a lengthening of the average period of disability within the authorized 10 months.

Persistent pain syndrome and dyspeptic symptoms can lead to an extension of the timing of VUT after vagotomy, which in 15% of patients is caused by an unhealed ulcer or gastroduodenitis; early transient diarrhea; postvagotomic atony of the stomach, as well as advanced age, at which adaptation after surgery is delayed.

VUT also occurs when treatment is needed in the long-term aftermath of the operation. More often it is reflux gastritis and reflux esophagitis during an exacerbation. The term of VUT is 2-3 weeks, less often - 1.5-2 months. With frequent and prolonged exacerbations of reflux esophagitis, VUT should not exceed 3-4 months, and in connection with a dubious prognosis, these patients should be referred to MSE.

Permanent disability. III group of disability (moderate limitation of life activity) is established: upon completion of treatment after surgery for gastric ulcer if it is impossible to continue working in some professions due to absolute contraindications or the impossibility to perform it in full; with moderate severity of pathological syndromes, if it is necessary to correct work activity, leading to a decrease in qualifications or the amount of work.

II group of disability (pronounced limitation of life activity) is established when: severe (III degree of severity) long-term consequences of the operation (for example, dumping syndrome of III severity, etc.); moderate severity of several syndromes, against the background of concomitant diseases of the gastrointestinal tract or diabetes mellitus, when the performance of professional work under normal conditions can worsen their course; development after surgery of severe early complications (interintestinal abscesses in combination with intestinal fistulas) with an unclear prognosis.

I group of disability (a pronounced limitation of life and the need for constant outside care) is rarely established with: post-resection

dystrophy of the III degree of severity; postvagotoma recurrent diarrhea of III severity.

Dispensary observation. Early diagnosis of ulcer is possible only with active preventive examinations of the population, which are advisable to be carried out among organized groups of the population - industrial workers, agricultural workers. Observation by a gastroenterologist (therapist) after relieving an exacerbation - once a month, then once every 3–6 months. After scarring of an ulcer with increased or normal acidity, for the prevention of exacerbation, it is recommended to take gastrocepin or Maalox or H2-histamine blocker in maintenance doses at night for several months, sometimes up to a year. Active anti-relapse treatment is carried out in spring and autumn.

Clinical case No. 2

1. What is the preliminary diagnosis?

Chronic non-calculous cholecystitis in the acute stage of moderate severity.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research

A general blood test is usually unremarkable, but with an exacerbation, leukocytosis with neutrophilia, a shift of the leukoformula to the left, and a slight increase in ESR are observed. The general analysis of urine is most often normal, it is possible to reveal a positive reaction to bilirubin (with complication of chronic cholecystitis by obstructive jaundice). Biochemical indicators - hyperbilirubinemia, mainly due to the conjugated fraction, hypercholesterolemia, increased other markers of cholestasis. There may be a short-term and slight increase in transaminases in the blood. Enzyme immunoassay for the detection of helminths: opisthorchiasis, giardiasis, toxacariasis, ascariasis. Feces on I / r three times, scatological examination.

Instrumental research

Ultrasound is the main method of instrumental research in diseases of the gallbladder, accessible and very informative, reveals

a thickening of the gallbladder wall (with an exacerbation of the process - more than 3 mm), an increase in its volume, in the lumen of the gallbladder - a thick secret, calculi. Sometimes, a shrunken, reduced in size, gallbladder, filled with calculi and practically free of bile, is detected.

Endoscopic retrograde cholangiography is used to assess the condition of the bile ducts, the presence of stones in them. The study is performed when small stones are found in the gallbladder in combination with an expansion of the diameter of the common bile duct and an increase in the content of bilirubin in the blood. For common bile duct stones, endoscopic papillosphincterotomy and stone removal can be done.

Computed tomography (CT) and magnetic resonance imaging (MRI) are very informative, but quite expensive research methods. They allow you to identify the expansion of the bile ducts, an increase in the retroperitoneal lymph nodes, diseases of the head of the pancreas and liver.

X-ray contrast methods for examining gallbladder: oral cholecystography, intravenous cholecystocholangiography. Defects of filling in the gallbladder are determined due to the presence of stones in it. When the cystic duct is obstructed, a "negative cholecystogram" is obtained (the bile duct is determined, but the gallbladder is not contrasted), the so-called. "Disabled ZhP";

Plain radiography of the right hypochondrium as a method for diagnosing gallstone disease does not currently have an independent significance. It allows you to identify only X-ray-positive calculi (most often calcareous).

3. What is the patient's management?

Drug-free treatment. Table number 5 according to Pevzner. Medication. Antibacterial drugs for chronic non-calculous cholecystitis are prescribed in case of bacterial etiology: ampicillin 4–6 g / day; cefazolin 2-4 g / day; gentamicin 3-5 mg / kg / day; clindamycin 1.8–2.7 g / day; cefotaxime; clarithromycin 500 mg 2 times a day; erythromycin 0.25 g 4-6 times a day; ciprofloxacin 500-750 mg 2 times a day.

Treatment with antibacterial agents is carried out on average for at least 8-10 days.

With giardiasis: metronidazole 500 mg × 2-3 times a day, ornidazole 500 mg. Usually, 1.5 g of the drug is prescribed once a day (ornidazole is preferably taken in the evening). The duration of the course of treatment is 1-2 days.

Myotropic antispasmodics:

1. Anticholinergics: atropine 0.1% - 1 ml; platifillin 0.2% - 2 ml; metacin 0.1% - 1 ml.

2. Antispasmodics: drotaverine 2% 2-4 ml intramuscularly or intravenously; papaverine 2% - 2 ml under the skin; mebeverine hydrochloride 200 mg 2 times a day for 2-4 weeks; hymecromone 200-400 mg 3 times a day before meals for 15-20 minutes; hyascin butyl bromide 2% - 2 ml intramuscularly, intravenously drip, then in pills 10 mg x 3 times a day.

Suppression of vomiting and nausea in chronic cholecystitis: Metoclopramide 2 ml × 2 times intramuscularly or intravenously; Domperidone 10 mg 1 tablet 2-3 times a day, 7-14 days.

Cholelitholytic drugs orally - in some cases, effective for X-ray negative (cholesterol) stones: UDCA 8-15 mg / kg / day in 2-3 doses orally for a long time (up to 2 years).

4. Medical and labor expertise. Dispensary observation.

Temporary disability. VUT occurs with an exacerbation of the disease, the need for adaptation and compensation after surgical treatment. Recovery is characterized by normalization of body weight, laboratory biochemical parameters, elimination of pain syndrome, elimination of the cause of PCES, formation of a strengthened postoperative scar, elimination of asthenoneurotic syndrome after surgery. After surgical treatment of VUT with uncomplicated treatment - up to 36–42 days, with complications - from 45–53 to 68 days. Exemption from heavy physical labor after surgery should be up to 3-4 months.

Contraindicated types of labor. Patients with cholecystitis of gallstones after surgical interventions are contraindicated in hard physical labor, work with increased neuropsychic, emotional stress, work with

a forced position of the body, if it is impossible to follow the diet and diet, personal hygiene (fistulas).

Permanent disability. Moderate limitation of vital activity (III group of disability) occurs in patients with: with a form of moderate severity of chronic inflammatory and calculous process in the biliary tract with conservative treatment; with a form of medium severity PCES; with a slight loss of bile (up to 150-200 ml / day) through an external fistula. Under unfavorable working conditions, the III group of disability is established for rational employment or limitation of the volume of labor.

A pronounced limitation of vital activity (II group of disability) occurs with: effective conservative treatment with the transition of the process to a severe form, the addition of diseases of other organs of the gastrointestinal tract and decompensation of the digestive function; severe concomitant diseases. The severe form of PCES and the need for long-term recovery of vital activity after complex reconstructive surgeries to eliminate the main causes of PCES also provide grounds for establishing the II group of disability. With a significant loss of bile through an external fistula, a decrease in body weight and frequent dressings (more than 7 times a day), a II disability group is also established.

A pronounced limitation of life occurs with severe complications (cachexia, anemia), ineffective treatment and the need for constant outside care. These patients can be set to I group of disability.

Dispensary observation. 1-2 times a year - follow-up examination by a therapist. Once a year - fractional and duodenal intubation. Ultrasound and FEGDS, cholecystography. UAC, OAM, LHC - once a year. Preventive treatment.

Clinical case No. 3

1. What is the preliminary diagnosis?

Chronic enteritis, exacerbation of jejunitis.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research. Basic: KLA with obligatory platelet count and leukoformula; OAM; in a biochemical blood test: a study of electrolytes, an indicator of acute phase inflammation - quantitative CRP, as well as the determination of functional tests of the liver (ALT, AST) and kidneys (creatinine, urea), iron metabolism (ferritin, serum iron, TIBC) and vitamin D, total protein and albumin, a marker of cholestasis and osteoporosis: alkaline phosphatase; stool test; definition of HIV (differential diagnosis of diarrheal syndrome).

Biological markers of inflammation are proteins - degradation products of neutrophils - lysozyme, lactoferrin and, most sensitive, fecal calprotectin. A rapid test for fecal calprotectin, which is an alternative to the ELISA technique, can be recommended as a screening method that will correct the clarification of the diagnosis of IBD, as well as for monitoring therapy. Fecal calprotectin levels are significantly higher in colonic inflammation.

Additional studies: According to the indications, the immunological status is studied (cellular, humoral, CECi). Infectious diarrhea, as well as refractory colitis (resistant to therapy), are excluded by serological and culture tests for infections, including C. difficile (toxins A and B). For the differential diagnosis of ulcerative colitis and Crohn's disease, ANCA, ASCA serological testing can be used.

Diagnosis of opportunistic infections should be carried out before starting biological therapy.

Instrumental research

Basic methods: The danger of endoscopic manipulations in patients in the acute phase of the disease due to the likelihood of intestinal perforation should be taken into account.

Endoscopic research methods: endoscopic examination of the upper and lower gastrointestinal tract is performed to confirm the diagnosis of IBD, assess the localization and prevalence of the pathological process and obtain tissue samples for morphological analysis for

the purpose of differential diagnosis between UC and CD, detection of dysplasia or malignancy. In UC, there is continuous (continuous) inflammation of the colon mucosa, beginning in the rectum. The terminal ileum is involved in 50% of total colitis (reflux ileitis). In active colitis, laxatives and colonoscopy should generally be avoided, in which case flexible sigmoidoscopy without prior preparation is recommended.

Histological examination. Colon mucosa biopsy is performed in the following cases: at the initial diagnosis; in case of doubts about the correctness of a previously made diagnosis; with a long history of UC (more than 7–10 years) - chromoendoscopy with targeted biopsy or step biopsy (from each section of the colon) to exclude epithelial dysplasia. To make a diagnosis of IBD, at least two biopsies must be collected from six segments: all sections of the colon (including the rectum) and an ileal biopsy. The earliest diagnostic criterion is the presence of basal plasmacytosis. Later signs include a violation of the architectonics of crypts, crypt abscesses, transmural inflammation or mucosal atrophy. A characteristic feature of UC is a decrease in the gradient of inflammation from the rectum in the proximal direction. Typical morphological criteria for UC include: ulcerative defects within the mucous membrane; changes in the architectonics of the mucous membrane, the presence of mucosal atrophy with diffuse thickening of the mucous membrane; inflammation is localized in the mucous membrane with spread to the submucosal layer; plasma cell gradient, basal plasmacytosis; the presence of crypt abscesses and cryptitis. Biopsy results should be compared with clinical, endoscopic findings, duration of illness, and therapy.

X-ray methods. In the course of the study, the width of the intestinal lumen, the severity of haustration, the contours of the intestinal wall, as well as changes in the mucous membrane are assessed. IBD is characterized by the presence of rigidity of the intestinal wall and its fringed outlines, strictures, abscesses, tumor-like conglomerates, fistulous passages, uneven narrowing of the intestinal lumen up to the symptom of “lace”.

In the case of high activity of UC, a survey study of the abdominal organs is carried out to exclude the toxic megacolon.

Additional methods of instrumental research: Magnetic resonance imaging: MR-cholangiopancreatography is the primary research method for diagnosing sclerosing cholangitis, which is associated with ulcerative colitis in 70–90%. Computed tomography: It is considered the "gold standard" for detecting extraintestinal manifestations of the disease, such as abscesses, cellulitis, swollen lymph nodes. If colon stenosis is present and a complete endoscopic examination is not available, CT colonography may be performed.

Ultrasound examination: Ultrasonography is a non-invasive test, with good tolerance, which does not cause ionizing radiation to the patient.

ECG to diagnose possible rhythm disturbances (hypokalemia, hypomagnesemia, etc.); Chest x-ray / chest CT (exclusion of a specific process); Ultrasound examination of OBP; X-ray densitometry to exclude osteoporosis.

3. What is the patient's management?

General principles of treatment of patients with chronic enteritis:

1. Normalization of intestinal microflora: suppression of pathogenic flora with antibacterial drugs; the use of biological preparations of normal microflora.
2. Restoration of digestion processes in the small intestine.
3. Relief of intestinal motility disorders.
4. Removal of inflammatory changes in the mucous membrane.
5. Absorption and removal of toxic products from the intestines.
6. Restoration of disturbed types of exchange.
7. Immunotherapy

The diet should be low-slag, not irritating, complete (proteins not less than 130-140 g, fats up to 100-120 g, carbohydrates 300-500 g), mechanically and chemically sparing, depending on the stage of the disease. During the period of exacerbation, diet No. 4a is prescribed (for 2-5 days), with a fading exacerbation - diet No. 46, with developing remission, No. 4b, during the period of remission, No. 2.

Antibacterial therapy. The choice of the drug depends on the nature of the dysbiosis and its generalization. Usually, drugs that are not absorbed from the gastrointestinal tract are used, however, when microbial seeding of the biliary and urinary tract, preference is given to absorbable drugs.

1. Eubiotics - drugs that have broad antibacterial, antiparasitic and antifungal effects, but do not affect the normal intestinal microflora. Derivatives of oxyquinoline are used - intestopan, enteroseptol, mexaorm, 1-2 tablets 3 times a day, the course of treatment is no more than 5-7 days. The drugs are contraindicated in case of damage to the optic nerve, dysfunction of the liver, kidneys, thyroid gland, allergy to iodine and bromine. Due to significant side effects (neuritis, optic nerve atrophy, etc.), their use is currently limited. Preference is given to derivatives of oxyquinoline, which do not contain halogens (C1, Br) in their molecule and therefore have good tolerance and the absence of side effects

2. Antibiotics are used taking into account the nature of dysbiosis. With staphylococcal dysbiosis, semisynthetic penicillins (ampicillin, dicloxacillin) are used, with enterococcal, macrolides (erythromycin or oleandomycin 0.25 g 3-4 times a day for 7-10 days). Sigmamycin (tetraolean) is effective for staphylococcal dysbiosis resistant to erythromycin, tetracycline. Levomycetin is effective against many gram-positive and gram-negative bacteria, Enterobacter, Klebsiella, Proteus, etc. are sensitive to it, it is also prescribed when yersiniosis is detected. In case of generalized proteine and dysbacteriosis, aminoglycosides (kanamycin, gentamicin) are used. For anaerobic flora, lincomycin is used in capsules of 0.5 g 4 times a day, clindamycin 0.3-0.45 g orally 4 times a day. Of the antibiotics that are not absorbed into the gastrointestinal tract, colimycin (colistin) is used orally, 3-6 million units 3-4 times a day, streptomycin (in the presence of hemolyzing strains of Escherichia).

3. Nitrofurans. - effective against gram-positive and gram-negative microbes, as well as lamblia, Trichomonas and some viruses. Contraindicated in diseases of the liver, kidneys, severe heart failure. Apply furazolidone 0.05 g 4 times a day for 5-10 days. It is not

absorbed into the gastrointestinal tract and does not violate the microbial flora of nifuroxazide (antinal, ersefuril). The drug is available in capsules of 0.2 g and 4% suspension;

use 1 capsule or 5 ml of suspension 4 times a day, the course is not more than 7 days, during treatment, alcohol should not be consumed.

4. Sulfonamides. act on streptococci, staphylococci, enterococci, escherichia. It is preferable to use non-absorbable drugs (phthalazole 1 g 4 times a day for 5-7 days). If it is necessary to use absorbed drugs, biseptol is prescribed, 2 tablets 2 times a day for 7-10 days.

5. Combined antibacterial drugs:

Dependal (contains furazolidone, metronidazole, kaolin, pectin) - 1 tablet 3 times a day.

Enterosediv (contains streptomycin, a drug from the group of quinolines, kaolin, pectin) - 1 tablet 3 times a day for 7-10 days.

Intetrix is a highly effective drug consisting of a combination of oxyquinoline derivatives. In therapeutic doses, it does not change the normal composition of the intestinal microflora. Intetrix has a wide spectrum of antimicrobial action against gram-positive and gram-negative bacteria, and also has antifungal and amoebicidal action. Assign for acute infectious enteritis 2 capsules 3 times a day for 3-5 days, for intestinal dysbiosis - 2 capsules 2 times a day for 10 days. Joint use with other derivatives of oxychinolines is not allowed.

Dysbiosis treatment tactics

The patient is given 2-3 courses of antibiotic therapy lasting 5-7 days with a change in the antibacterial drug, then biological preparations are prescribed for 3-6 weeks:

- Bifidumbacterin - inside 5 doses 2 times a day 30 minutes before meals.
- Bificol - 5 doses 2 times a day.
- Bactisuptil - 1 capsule 4 times a day for 2 weeks.

Also used are preparations of lactic acid bacteria - linex, lactobacterin. For persons under 40, it is preferable to prescribe bifidumbacterin, in middle age - bificol, in the elderly - lactobacterin.

Enzyme preparations are used as replacement therapy, because with ChE, there is always a deficiency of enzymes due to their

microbial destruction. Preparations that do not contain bile acids (pancreatin, mezim, pancurmen, etc.) are prescribed 2 tablets with meals, 6-8 tablets per day for a week, then reduce the dose to an effective one, combining it with taking a biological preparation.

The use of enzymes containing bile acids (festal, digestal, etc.) requires great care. They are not indicated for patients with active hepatitis and liver cirrhosis, severe colitis, diarrhea.

Vitamin therapy is pathogenetically justified in ChE due to impaired endogenous synthesis of vitamins in dysbiosis and their absorption. Vitamins are prescribed parenterally, especially with exacerbation of ChE. First of all, those vitamins are shown, the deficiency of which develops early: BI, Bg, nicotinic acid. Vitamins Bi and Vb are injected subcutaneously in 2 ml every other day for a course of 10 injections, nicotinic acid (1% solution) is prescribed according to the scheme: start with 1 ml, after 2 days increase the dose by 1 ml, bring it to 5 ml and decrease it in reverse sequence to the original.

Herbal preparations for the treatment of diarrhea: decoction of oak bark, chamomile, mint, St. John's wort, yarrow, sage, calendula, alder cones, bird cherry, blueberry, pomegranate bark.

Symptomatic drugs that slow down peristalsis (contraindicated in diarrhea against the background of acute intestinal infections):

1) M-anticholinergics - atropine, metacin, platifillin;

2) reasek (lomotil) - a synthetic opiate, 1 tablet is prescribed 2-4 times a day before meals until the diarrhea stops, but not more than 6 days in a row;

3) loperamide (imodium) - 1 tablet 2 times a day;

4) katevan - 1 tablet 2-3 times a day.

In addition, adsorbents, astringent and enveloping preparations are used (usually 1 dose 3 times a day 1-1.5 hours after a meal):

1) powders containing 0.5 g of calcium carbonate, dermatol, bismuth;

2) enveloping preparations based on aluminum hydroxide (almagel, phosphalutel, etc.);

3) desmol (bismuth subsalicylate) 2 tbsp each. (or 2 tablets) no more than 8 times a day;

4) tanalbin - tablets of 0.5 g 3-4 times a day before meals;

5) smecta (herbal preparation with sorption properties and stabilizing mucous barrier) - 3 sachets per day, dissolve in 1/2 glass of water;

6) tannakp (contains tannin and ethacridine) 1 tablet 4 times a day before or during meals;

7) adsorbents - enterodesis, 5 g in 100 ml of boiled water 1-2 times a day for 2-7 days; activated carbon 1-2 g 3-4 times a day 3-5 days; polyphepan 1 tbsp. in 1 glass of boiled water 3 times a day for 5-7 days; belasorb for 1 tsp. in 1 glass of water 3 times a day. Drugs that reduce flatulence in the intestines:

1) dimethicone (zeolate) - 0.08 tablets; 1-2 tablets 3-4 times a day after meals and before bedtime, chew the tablets;

2) gazex - a herbal preparation that reduces flatulence and gastric dyspepsia, 2-3 tablets after meals, chew;

3) unienzyme - a combined preparation containing enzymes (papain, mushroom diastase), nicotinamide, coal; apply 1-2 tablets with meals (do not chew).

Correction of metabolic disorders. To correct protein deficiency, a diet with a high protein content is used, anabolic steroids (Nerobol, Retabolil) are prescribed. In severe cases, protein hydrolysates and mixtures of amino acids (aminosol, alvezin, aminone, etc.) are administered parenterally. To normalize fat metabolism, Essentiale is prescribed 5 ml daily for 20 days, then inside.

4. Medical and labor expertise. Dispensary observation.

Temporary disability

Able to work patients with mild and moderate severity of the disease in the phase of remission in the absence of contraindicated working conditions. The CUT criteria are the exacerbation phase, the development of complications, the nature of the course. The duration of temporary disability with mild course - 2-3 weeks, with moderate severity - 1.5-2 months, with severe - 2 months or more. The development of complications increases the terms of temporary disability. With a surgical method of treatment - up to 2 months.

Permanent disability

Indications for referral to MSEC: 1) severe course of the disease; 2) moderate course of NUC in the absence of a positive effect of treatment; 3) moderate and mild severity of the course in the presence of contraindicated conditions and types of work and the impossibility of employment in the VKK; 4) severe neuropsychic disorders (pathological personality development, neurosis-like states); 5) the presence of a poorly functioning intestinal stoma with impaired digestion.

The required minimum examination when referring patients to the MSE: a) general blood count; b) general urine analysis; c) coprogram; d) sowing feces on the dysentery group; e) sigmoidoscopy; f) irrigoscopy; g) protein and protein fractions.

Additional studies: a) colonoscopy; b) biopsy of the intestinal mucosa; c) immunological studies.

The decision to extend treatment for temporary incapacity for work for more than 4 months is made by the ITU with a prolonged exacerbation, but with a favorable prognosis.

Criteria for defining disability groups. Group I: severe course of the disease with widespread lesions of the colon, with the failure of the therapy and the development of local and general complications (arthritis, severe anemia, severe violations of protein and water-electrolyte metabolism); patients with a removed colon and permanent ileostomy with complications (ileostomy dysfunction, intestinal fistulas, frequent intestinal obstruction), when patients need constant outside care.

Group II: patients with widespread lesions of the large intestine, severe progressive course, with persistent significant impairment of intestinal function in the absence of treatment effect; patients with intestinal stoma in cases of unfavorable clinical course (frequent loose stools, digestive disorders II – III century). In some cases, the II group of disability is established in patients with UC in connection with a pronounced pathological development of the personality (depressive-hypochondriacal or asthenoneurotic syndrome).

Group III: distal colon lesion, characterized by annual exacerbations (1-3 times a year) lasting 30-40 days (moderate severity of the course), intestinal stoma with good functioning; in the presence of

contraindicated conditions and types of work and the impossibility of rational employment on VK.

Dispensary observation. Patients with chronic colitis with rare exacerbations and without severe dyskinesia of the colon are observed by a district therapist in the II dispensary group. The frequency of examinations by a therapist and gastroenterologist - once a year, by a proctologist and an oncologist, patients are examined according to indications. Sigmoidoscopy, irrigoscopy, colonoscopy are performed if necessary. Wellness activities consist in the organization of proper nutrition, normalization of the stool, spa treatment or treatment in a dispensary.

Patients with chronic colitis with frequent exacerbations are observed by a local therapist in the III dispensary group. The frequency of examinations by a therapist, gastroenterologist and proctologist - 2 times a year, by an oncologist - according to indications. It is advisable to undergo a complete inpatient examination once a year. Wellness measures consist in proper nutrition, stool normalization, herbal medicine, in case of exacerbation of chronic colitis, inpatient treatment is carried out according to the above program.

Consultation of narrow specialists: consultation of a surgeon - if acute toxic dilatation of the colon is suspected, in the absence of positive dynamics from conservative therapy); consultation with an infectious disease specialist - in the case of an opportunistic infection, differential diagnosis with infectious diseases (diarrheal syndrome); consultation with a phthisiatrician - exclusion of latent infection before the induction of TNF therapy; consultation of other narrow specialists - according to indications: obstetrician-gynecologist / gynecologist - in case of patient's pregnancy.

Clinical case No. 4

1. What is the preliminary diagnosis? Preliminary diagnosis: Chronic recurrent acalculous cholecystitis in the stage of exacerbation, moderate course.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research

Enzyme immunoassay for the detection of helminths: opisthorchiasis, giardiasis, toxacariasis, ascariasis. Feces on I / r three times, scatological examination.

Instrumental research

Endoscopic retrograde cholangiography is used to assess the condition of the bile ducts, the presence of stones in them. The study is performed when small stones are found in the gallbladder in combination with an expansion of the diameter of the common bile duct and an increase in the content of bilirubin in the blood. For common bile duct stones, endoscopic papillosphincterotomy and stone removal can be done.

Computed tomography (CT) and magnetic resonance imaging (MRI) are very informative, but quite expensive research methods. They allow you to identify the expansion of the bile ducts, an increase in the retroperitoneal lymph nodes, diseases of the head of the pancreas and liver.

X-ray contrast methods for examining gallbladder: oral cholecystography, intravenous cholecystocholangiography. Defects of filling in the gallbladder are determined due to the presence of stones in it. When the cystic duct is obstructed, a "negative cholecystogram" is obtained (the bile duct is determined, but the gallbladder is not contrasted), the so-called. "Disabled ZhP";

Plain radiography of the right hypochondrium as a method for diagnosing gallstone disease does not currently have an independent significance. It allows you to identify only X-ray-positive calculi (most often calcareous).

3. What is the patient's management?

Drug-free treatment. Table number 5 according to Pevzner. Medication. Antibacterial drugs for chronic non-calculous cholecystitis are prescribed in case of bacterial etiology: ampicillin 4–6 g / day; cefazolin 2-4 g / day; gentamicin 3-5 mg / kg / day; clindamycin 1.8–2.7 g / day; cefotaxime; clarithromycin 500 mg 2 times a day; erythromycin 0.25 g 4-6 times a day; ciprofloxacin 500-750 mg 2 times a day. Treatment with antibacterial agents is carried out on average for at least 8-10 days.

With giardiasis: metronidazole 500 mg × 2-3 times a day, ornidazole 500 mg. Usually, 1.5 g of the drug is prescribed once a day (ornidazole is preferably taken in the evening). The duration of the course of treatment is 1-2 days.

Myotropic antispasmodics:

1. Anticholinergics: atropine 0.1% - 1 ml; platifillin 0.2% - 2 ml; metacin 0.1% - 1 ml.

2. Antispasmodics: drotaverine 2% 2-4 ml intramuscularly or intravenously; papaverine 2% - 2 ml under the skin; mebeverine hydrochloride 200 mg 2 times a day for 2-4 weeks; hymecromone 200-400 mg 3 times a day before meals for 15-20 minutes; hyascin butyl bromide 2% - 2 ml intramuscularly, intravenously drip, then in pills 10 mg x 3 times a day.

Suppression of vomiting and nausea in chronic cholecystitis: Metoclopramide 2 ml × 2 times intramuscularly or intravenously; Domperidone 10 mg 1 tablet 2-3 times a day, 7-14 days.

Cholelitholytic drugs orally - in some cases, effective for X-ray negative (cholesterol) stones: UDCA 8-15 mg / kg / day in 2-3 doses orally for a long time (up to 2 years).

4. Medical and labor expertise. Dispensary observation.

Temporary disability. VUT occurs with an exacerbation of the disease, the need for adaptation and compensation after surgical treatment. Recovery is characterized by normalization of body weight, laboratory biochemical parameters, elimination of pain syndrome, elimination of the cause of PCES, formation of a strengthened postoperative scar, elimination of asthenoneurotic syndrome after surgery. After surgical treatment of VUT with uncomplicated treatment - up to

36–42 days, with complications - from 45–53 to 68 days. Exemption from heavy physical labor after surgery should be up to 3-4 months.

Contraindicated types of labor. Patients with cholecystitis of gallstones after surgical interventions are contraindicated in hard physical labor, work with increased neuropsychic, emotional stress, work with a forced position of the body, if it is impossible to follow the diet and diet, personal hygiene (fistulas).

Permanent disability. Moderate limitation of vital activity (III group of disability) occurs in patients with: with a form of moderate severity of chronic inflammatory and calculous process in the biliary tract with conservative treatment; with a form of medium severity PCES; with a slight loss of bile (up to 150-200 ml / day) through an external fistula. Under unfavorable working conditions, the III group of disability is established for rational employment or limitation of the volume of labor.

A pronounced limitation of vital activity (II group of disability) occurs with: effective conservative treatment with the transition of the process to a severe form, the addition of diseases of other organs of the gastrointestinal tract and decompensation of the digestive function; severe concomitant diseases. The severe form of PCES and the need for long-term recovery of vital activity after complex reconstructive surgeries to eliminate the main causes of PCES also provide grounds for establishing the II group of disability. With a significant loss of bile through an external fistula, a decrease in body weight and frequent dressings (more than 7 times a day), a II disability group is also established.

A pronounced limitation of life occurs with severe complications (cachexia, anemia), ineffective treatment and the need for constant outside care. These patients can be set to I group of disability.

Dispensary observation. 1-2 times a year - follow-up examination by a therapist. Once a year - fractional and duodenal intubation. Ultrasound and FEGDS, cholecystography. UAC, OAM, LHC - once a year. Preventive treatment.

Clinical case No. 5

1. What is the preliminary diagnosis?

Peptic ulcer with localization on the lesser curvature in the exacerbation phase.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research.

- fecal occult blood test - a positive reaction indicates gastroduodenal bleeding.
- A list of additional diagnostic measures: determination of serum iron in the blood and analysis of feces for occult blood - in case of anemia; Ultrasound of the liver, biliary tract and pancreas - with concomitant pathology of the hepatobiliary system; biochemical blood tests (total bilirubin and its fractions, total protein, albumin, cholesterol, ALT, AST, glucose, amylase) - with concomitant pathology of the hepatobiliary system;

3. What is the patient's management?

Peptic ulcer treatment is based on diet and eradication anti-helicobacter therapy.

The main principle of diet therapy is mechanical, chemical, thermal sparing.

We recommend frequent fractional meals 5-6 times a day in small portions. In the period of exacerbation of peptic ulcer disease, tables 1a, 16, 1 according to Pevzner are sequentially assigned.

Treatment of uncomplicated peptic ulcer disease in the active phase

The doctor is obliged to reflect the following indicators in the patient's card: allergy to penicillins, metronidazole, macrolides, tetracycline, bismuth, PPI; if possible, indicate the use of macrolides in history for any disease; whether the patient took triple therapy, if "Yes" - from which drugs.

1st step of eradication therapy. In patients with ulcerative ulcer, who first seeks medical help, the first step is usually the appointment of triple therapy or quadrotherapy, or alternative triple regimens.

Triple therapy.

Patients with peptic ulcer disease with H. pylori infection are prescribed 7-day 3-component therapy: Amoxicillin 1 g + clarithromycin 500 mg + lansoprazole 30 mg or omeprazole 20 mg (all 2 times a day).

PPIs include the following drugs: omeprazole, lansoprazole, esomeprazole, pantoprazole, and rabeprazole. However, there is no proven difference between the effectiveness and safety of different PPIs. The choice of a specific API depends on the economic and physical availability of the funds.

Quadrotherapy (1-step therapy option).

The appointment of quadrotherapy is indicated in the following situations: 1. Quadrotherapy is preferable to those patients with ulcer who are allergic to penicillins. Amoxicillin is contraindicated in those patients who are allergic to penicillins. A patient with an exacerbation of a previously diagnosed peptic ulcer with dyspepsia, as previously received triple therapy, is immediately prescribed quadrotherapy.

Triple therapy as a 1st step therapy is used only once - at the first visit to the doctor.

The ineffectiveness of therapy indicates either the presence of antibacterial resistance in H. pylori or low compliance (adherence) to treatment in patients with ulcer. H. pylori resistance to clarithromycin and metronidazole can be primary and secondary. H. pylori resistance to amoxicillin is rare. 3. When treating patients with large ulcers (more than 2 cm) associated with H. pylori, if patients refuse surgical treatment or due to the presence of contraindications, it is advisable to immediately use quadrotherapy in the treatment of patients for 10 days. 4. Quadrotherapy has pharmacoeconomic advantages over triple therapy.

Triple alternative regimens (1st step therapy option).

In cases where there are contraindications to quadrotherapy, with physical inaccessibility, if the patient does not agree with quadrotherapy due to the large number of components, alternative triple therapies can be recommended: • Tripotassium dicitrate bismuth 240 mg 2 times a day + Clarithromycin 500 mg 2 times day + Amoxacillin 1000 mg 2 times a day (duration 7 days, eradication 93%); • Bismuth

tripotassium dicitrate 240 mg 2 times + Clarithromycin 500 mg 2 times a day + Furazolidone 200 mg 3 times a day (duration 7 days, eradication -92%);

Monitoring the effectiveness of the 1st step therapy.

The dynamics of gastric ulcer healing is controlled by the endoscopic method or, if unavailable, contraindicated or refused, by the X-ray method, after 6-8 weeks (A), and DU - in the absence of a therapeutic effect within 4-6 weeks.

2nd step of eradication therapy.

In the presence of non-healing ulcer or if symptoms of duodenal ulcer persist, step 2 therapy is performed. The duration of treatment at the 2nd step is at least 10 days.

Quadrotherapy: PPI in a standard dose 2 times a day and bismuth tripotassium dicitrate 240 mg 2 times a day in combination with metronidazole 500 mg 3 times a day and tetracycline 500 mg 4 times a day.

Supportive therapy.

After the second step therapy, with a slow positive dynamics of clinical symptoms of dyspepsia, maintenance therapy with PPI / H2-histamine blockers in standard dosages is indicated until a therapeutic effect is achieved. It is necessary to revise the further tactics of patient management annually.

In cases of slow positive dynamics of clinical symptoms of dyspepsia, it is possible to additionally prescribe bismuth tripotassium dicitrate at 240 mg 2 times a day for 3-4 weeks.

On-demand therapy. The indication for this therapy is the appearance of subjective symptoms of peptic ulcer exacerbation after successful eradication of H. pylori.

PPIs or H2-blockers, antacids or alginates are used as antisecretory drugs. Antacids and alginates today are considered only as auxiliary agents used “on demand” for self-correction of a number of dyspeptic symptoms by patients (symptomatic therapy). Antacids or alginates can also be used for emergency treatment of dyspepsia at any time (A).

4. Medical and labor expertise. Dispensary observation.

Temporary disability. In case of recurrence of an ulcer, the occurrence of complications, a resection or vagotomy with resection of the antrum is performed. The degree of digestive disorders is determined by the following factors: the general condition of the patient, body weight (stable, falling), body weight deficit, pain syndrome, the severity of dyspeptic symptoms, indicators of secretory and motor-evacuation functions of the gastrointestinal tract, changes in hemogram, indicators of protein, carbohydrate and others types of metabolism and intracavitary intestinal digestion.

VUT criteria and indicative timeframes.

Any type and volume of surgical treatment of ulcer leads to disability. Its duration is determined by: the patient's condition before the operation; type and scope of the operation; the speed of compensation for impaired functions; the presence, nature and severity of complications in the early postoperative period; long-term consequences; accompanying illnesses; the age of the patients.

Average terms of VUT after various types of surgery: selective proximal vagotomy (SPV) - 40–35 days; SPV + pyloroplasty: 40–35 days; stem or selective vagotomy + pyloroplasty: 1.5–2 months; vagotomy + antrum resection: 2.5–3 months; resection 2/3 - 3/4 of the stomach: 3–3.5 months; gastrectomy: 6-8 months

Early postoperative complications and consequences of operations can lengthen the average duration of VUT. Among them, in the first place is asthenic syndrome, characterized by general weakness, irritability, poor sleep against the background of normalization of postoperative indicators. The duration of sick leave treatment in this case can be increased to 6 months, since an earlier return to professional work leads in the future to the development of persistent long-term consequences. A number of patients may develop anastomosis after surgery, gastritis of the gastric stump, syndrome of "small stomach", postoperative wound suppuration, abscesses in the abdominal cavity, ligature fistulas. These changes, as well as the slow development of adaptation, can lead to a lengthening of the average period of disability within the authorized 10 months.

Persistent pain syndrome and dyspeptic symptoms can lead to an extension of the timing of VUT after vagotomy, which in 15% of patients is caused by an unhealed ulcer or gastroduodenitis; early transient diarrhea; postvagotomic atony of the stomach, as well as advanced age, at which adaptation after surgery is delayed.

VUT also occurs when treatment is needed in the long-term aftermath of the operation. More often it is reflux gastritis and reflux esophagitis during an exacerbation. The term of VUT is 2-3 weeks, less often - 1.5-2 months. With frequent and prolonged exacerbations of reflux esophagitis, VUT should not exceed 3-4 months, and in connection with a dubious prognosis, these patients should be referred to MSE.

Permanent disability. III group of disability (moderate limitation of life activity) is established: upon completion of treatment after surgery for gastric ulcer if it is impossible to continue working in some professions due to absolute contraindications or the impossibility to perform it in full; with moderate severity of pathological syndromes, if it is necessary to correct work activity, leading to a decrease in qualifications or the amount of work.

II group of disability (pronounced limitation of life activity) is established when: severe (III degree of severity) long-term consequences of the operation (for example, dumping syndrome of III severity, etc.); moderate severity of several syndromes, against the background of concomitant diseases of the gastrointestinal tract or diabetes mellitus, when the performance of professional work under normal conditions can worsen their course; development after surgery of severe early complications (interintestinal abscesses in combination with intestinal fistulas) with an unclear prognosis.

I group of disability (a pronounced limitation of life and the need for constant outside care) is rarely established with: post-resection dystrophy of the III degree of severity; postvagotoma recurrent diarrhea of III severity.

Dispensary observation. Early diagnosis of ulcer is possible only with active preventive examinations of the population, which are advisable to be carried out among organized groups of the population

- industrial workers, agricultural workers. Observation by a gastroenterologist (therapist) after relieving an exacerbation - once a month, then once every 3–6 months. After scarring of an ulcer with increased or normal acidity, for the prevention of exacerbation, it is recommended to take gastrocepin or Maalox or H2-histamine blocker in maintenance doses at night for several months, sometimes up to a year. Active anti-relapse treatment is carried out in spring and autumn.

Clinical case No. 6

1. What is the preliminary diagnosis? Preliminary diagnosis: acute viral hepatitis B. HBsAg (+), severe form

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research

Basic (mandatory) diagnostic examinations carried out at the stationary level: biochemical blood test: GGTP, total protein and its fractions, prothrombin time / index or INR, fibrinogen A, creatinine, residual nitrogen, urea, serum iron.

Additional diagnostic examinations carried out at the stationary level: determination of AFP in blood serum by ELISA; with cholestasis - cholesterol, lipoproteins, alkaline phosphatase; test for autoimmune markers: antinuclear antibodies (ANA), anti-smooth muscle antibodies (ASMA), antibodies to liver and kidney microsomes of type I (LKM-1), to soluble liver antigen (SLA) in serum by ELISA method; definition of bypass syndrome (increased content of ammonia, phenols, free amino acids.

In the coagulogram: a decrease in the level of PI, fibrinogen, thrombotest and plasma tolerance to heparin, lengthening of the venous blood clotting time, an increase in the time of plasma recalcification to heparin.

Indicators of thyroid hormones: by ELISA for the diagnosis of autoimmune thyroiditis.

Determination of AFP to exclude hepatocarcinoma.

Determination of serum iron - to exclude hereditary diseases and to predict the effectiveness of AVT.

Instrumental research

Liver biopsy - assessment of the activity of the process and the stage of hepatitis.

Quantitative systems for assessing histological changes in the liver: METAVIR; Ishaq system.

Endoscopic examination - identification of varicose veins of the esophagus and concomitant diseases of the upper digestive tract.

Complex ultrasound - to determine hepatomegaly, splenomegaly, changes in the structure of the liver, pathology of other organs of the gastrointestinal tract - gallbladder, pancreas, kidneys - as a manifestation of extrahepatic lesion.

Doppler study - for the diagnosis of portal hypertension.

CT or MRI of the abdominal cavity according to indications for the diagnosis of congenital malformations of the hepatobiliary system, oncopathology, benign tumors.

Fibroscanning of the liver - to assess the degree of fibrosis by a non-invasive method.

3. What is the patient's management?

Drug-free treatment. 1. Compliance with the regimen (restriction of physical, psycho-emotional stress), diet table number 5, avoid prolonged insolation, exercise therapy, spa treatment without exacerbation of the process.

Medication. Antiviral therapy (AVT) is prescribed in the replication phase of CVH B (active phase of the process), treatment is carried out with alpha-interferon drugs, nucleoside analogs (lamivudine, entecavir).

Prognostic factors of the effectiveness of IFN-therapy: "wild" (HBeAg-positive) strain HBV; female; "Horizontal" route of infection; short duration of the disease (no more than 3 years); high activity of transaminases (more than 2-3 times higher than normal); low concentration of the virus in the blood; lack of immunosuppression; the absence of an additional delta agent in CHB; absence of liver cirrhosis; lack of obesity.

Indications for the appointment of AVT in chronic hepatitis: HBeAg - positive CHB with a viral load HBV DNA2 × 104 IU / ml or 1 × 05 copies / ml; HBeAg - negative CHB at viral load HBV DNA2 × 03IU / ml or 1 × 04 copies / ml; in combination with increased ALT activity and / or morphological activity of hepatitis according to the METAVIR system, stage 2 of hepatitis, according to the Iskhak system, stage of hepatitis 3, (A2, fibrosis F2 and higher); patients with CGD who have HDV RNA and / or DNA HBV determined by qualitative PCR in combination with increased ALT activity and / or morphological activity of hepatitis according to the METAVIR system, stage 2 of hepatitis, according to Iskhak's system, stage of hepatitis 3 (A2, fibrosis F2 and higher).

Doses of drugs and the scheme for antiviral therapy: CHB - Intron-A at a dose of 6 million IU / m2 of body surface 3 times a week starting from the 1st year of life, if there is no effect in children after 3 years of life, switch to Pegintron at a dose 60 mcg / m2 once a week; introduction subcutaneously in the umbilical region. The duration of CHB treatment with HBeAg-positive is 48 weeks, with HBeAg-negative it can last up to 2-3 years; Lamivudine at a dose of 2 mg / kg of body weight in children from 3 months of age. up to 2 years old, from 2 to 12 years old - 4 mg / kg (but not more than 100 mg per day), over 12 years old - 100 mg per day or Entecavir for children from 5 years old at a dose of 0.5 - 1 mg per day. If virologic response is inadequate (after 24 weeks), lamivudine or entecavir is added. Lamivudine is only prescribed for wild-type viral infections.

Contraindications to HTP

Absolute: autoimmune hepatitis; severe diseases of the cardiovascular system; hemoglobinopathies (thalassemia, sickle cell anemia); severe chronic diseases, including kidney damage at the stage of chronic renal failure; history of mental illness; liver failure; pregnancy.

Relative: endocrine diseases (diabetes mellitus, thyroid diseases) - after consulting an endocrinologist.

Undesirable effects of AVT to be prevented and corrected: thrombocytopenia, leukopenia; neutropenia; depression; hypothyroidism;

hyperthyroidism; losing weight; insomnia; alopecia; irritability; muscle pain; fever; visual impairment.

Outpatient surgery is not performed.

Surgical intervention provided in stationary conditions: in case of complications in patients with liver cirrhosis: stopping bleeding from varicose veins of the esophagus, puncture of the abdominal cavity with ascites, treatment of bacterial layers; liver transplantation.

Preventive measures: vaccination against hepatitis B; adherence to the regimen and diet for the prevention of complications; avoid contact with infectious patients; careful monitoring of donor blood to prevent infection during blood transfusions; adherence to personal hygiene measures to exclude contact and household transmission of infection; sanitary and educational work with the population about the ways of transmission of hepatitis B viruses.

Monitoring patients who have completed antiviral therapy. Patients who achieved HBO after a course of antiviral therapy, without liver cirrhosis, should be reexamined 24 weeks after the end of therapy, and then again a year later with the determination of their ALT, HBsAg and HBV DNA levels in the blood. If the ALT level remains within the normal range, and the HBV DNA test is negative, and the anti-HBsAt is positive, then the patient can be considered cured of hepatitis B. must be investigated one year after the completion of the HTP. Patients with LC, even if NVO is achieved as a result of antiviral treatment, should remain under the supervision of a physician: using the EGDS method, it is necessary to monitor the condition of the esophageal veins every 1–2 years, HCC screening should be performed once every 6 months with an ultrasound of the liver and determination of the AFP level.

Criteria for the effectiveness of CVH B treatment: suppression of HBV replication; normalization of ALT; clearance or seroconversion of HBeAg; clearance or seroconversion of HBsAg; reducing the degree of fibrosis; improving the quality of life; prevention of liver cirrhosis.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. The doctor has the right to independently open the form for up to 10 calendar days. If during this period the patient did not recover, the form is extended for up to 30 days. This period can only be extended by the medical and consulting commission.

Able to work in accessible types and conditions of light physical labor, as well as mental labor with moderate neuropsychic stress, are patients with CVH I, less often II Art. with a stable or slowly progressive course with rare (1-2 times a year) and short (2-3 weeks) exacerbations, functionally compensated or with mild liver dysfunctions, without systemic manifestations, in the absence of signs of process activity, and IVH grade IV ... (liver cirrhosis stage A according to Child-Pugh) of a stable course with the same frequency and duration of exacerbations and the state of liver functions, with portal hypertension stage I. without manifestations of hypersplenism. The necessary restrictions can be determined by the decision of the KEC of medical and preventive institutions. In such cases, patients retain physical independence, mobility, the ability to engage in normal household activities, economic independence and integration into society.

VUT occurs in the active phase of the disease, with the development of complications. The duration depends on the stage, degree of activity, severity of liver dysfunctions, portal hypertension, systemic manifestations, and the effectiveness of treatment. On average, with CVH (C, C, D) with moderate activity for 15–28 days, high activity for 30–45 days (up to 2–3 months), with exacerbation in the initial stage of CP - 35–40 days; deployed - 60 days or more.

Contraindicated types and working conditions: work associated with severe physical stress, a high set pace, forced body position, vibration, driving vehicles, traumatization of the epigastric region; exposure to toxic agents - salts of heavy metals, chlorinated hydrocarbons and naphthalenes, benzene and its homologues; high or low temperatures. This takes into account the stage of chronic hepatitis, the nature of the course, the degree of liver dysfunction, the stage of portal hypertension, systemic manifestations, etc.

Permanent disability

III group of disability is determined in connection with the limitation of the ability to self-service, movement, work activity of the 1st stage, patients with chronic hepatitis II stage of a slowly progressive course with exacerbations lasting 4-6 weeks, occurring 2-3 times a year, the activity of the process of the 1st stage. , dysfunction of the liver of mild, less often moderate, and patients with chronic hepatitis IV stage. (liver cirrhosis, stage A according to Child-Pugh) with the same frequency and duration of exacerbations, the degree of activity and severity of liver dysfunctions, with portal hypertension stage II, mild hypersplenism syndrome without hemorrhagic manifestations, working in contraindicated types and working conditions and in this regard, those in need of transfer to work in another, accessible profession, or a significant decrease in the volume of production activities.

The II disability group is determined in connection with the limitation of the ability to self-service, movement, work activity of the II degree, patients with chronic hepatitis II and III stages of intermittent recurrent course with frequent (up to 4-5 times a year) prolonged (6-8 weeks) exacerbations , activity of II degree, dysfunction of the liver of moderate or severe degree, severe extrahepatic (systemic) manifestations, as well as patients with chronic hepatitis IV. (Child-Pugh stage B liver cirrhosis) with the same frequency and duration of exacerbations, the degree of activity and severity of liver dysfunctions, with grade III portal hypertension, severe manifestations of hypersplenism syndrome (anemia, leukopenia, thrombocytopenia). In some cases, work may be recommended in specially created conditions (at home).

I group of disability is determined in connection with the limitation of the ability to self-service, movement, work activity III stage, patients with chronic hepatitis III stage of a rapidly progressive, continuously recurrent course, with activity III stage, the development of severe liver failure, systemic lesions with severe dysfunction of the pancreas , kidneys, other organs, exhaustion, as well as patients with chronic hepatitis IV Art. (stage C liver cirrhosis according to Child - Pugh), with activity II – III stage, severe liver failure, portal hypertension stage IV, intoxication and encephalopathy.

Dispensary observation. With CVH, it is necessary to undergo dispensary observation at least twice a year for life. With an exacerbation of the disease, hospitalization is advisable. After discharge, clinical, biochemical and serological indicators must be monitored, the frequency of the examination will be determined by the doctor. If necessary, the patient can be relieved of heavy physical exertion (by decision of the VC); business trips and work on the night shift are also not recommended. Students can be exempted from physical education, participation in competitions, physical activity. If the routine examination reveals HBsAg or anti-HCV, it is necessary to undergo an in-depth clinical and laboratory examination. Further observation is carried out after 3 months and then 2 times a year during the entire period of detection of HBsAg, anti-HCV.

When HBsAg is re-detected 3, 6 and 12 months after its initial detection, as well as in the presence of minimal clinical and biochemical changes, the diagnosis of "Chronic viral hepatitis" is established.

Carriers of HBsAg are removed from the register when the HBsAg test is 3-fold negative with an interval of 3 months within one year. Deregistration of carriers of anti-HCV is carried out individually after an in-depth clinical and laboratory examination with the normalization of immunological, serological and biochemical parameters within 1 year. The most rational is the examination for markers of viral hepatitis (antibodies to hepatitis), which significantly accelerates the detection of active forms of viral hepatitis.

Indications for consultation of narrow specialists: examination by an ophthalmologist - to exclude vasculitis and other pathologies of vision; examination by an endocrinologist - to exclude autoimmune thyroiditis, hypothyroidism, hyperthyroidism; examination of the surgeon - with pain syndrome, gastrointestinal bleeding, ascites, anasarca; examination by a transplant surgeon - for a possible liver transplant; examination by a gastroenterologist - in case of malnutrition, concomitant diseases of the gastrointestinal tract; examination by a hematologist - with a decrease in peripheral blood indicators; examination by an oncologist - if a neoplastic process is suspected.

Clinical case No. 7

1. What is the preliminary diagnosis?

Preliminary diagnosis: chronic pancreatitis.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research

Basic (mandatory) diagnostic examinations: general blood test, general urine analysis and urine diastase, blood glucose determination, microreaction, determination of blood group, Rh factor, bilirubin and fractions, AST and ALT, creatinine, urea, alkaline phosphatase, amylase and lipase blood (recommendation level A), coagulogram (prothrombin index, clotting time, bleeding time, fibrinogen, APTT), LDH, total protein and protein fraction. Dynamic ultrasound of the abdominal organs, EFGDS, CT of the abdominal organs (if indicated).

Additional diagnostic examinations: indicators of acid-base (basic) blood state (if indicated); blood gases (if indicated); survey radiography of the abdominal organs; plain chest x-ray; intraoperative cholangiography; retrograde cholangiopancreaticography; dynamic CT of the abdominal organs (first examination at 1 week of illness and subsequent CT if indicated) (recommendation level B); MRI of the abdominal organs (if indicated); diagnostic laparocentesis; diagnostic laparoscopy; bacteriological examination, consultation of specialists in the presence of concomitant pathology

Traditionally used in clinical practice is the determination of amylase in urine. As an additional test, amylase is determined in peritoneal exudate during laparoscopy. The Wolgemut method (determination of the total amylolytic activity of urine), according to which the normal level of amylase in the urine is 16–64 units, makes it possible to detect various levels of its increase - from 128 to 1024 units. and more. This test is not informative enough in relation to pancreatic alpha-amylase, since it reflects the total nature of glycolytic enzymes that are contained in the biological environment sent for research.

The study of the spectrum of hepatic enzymes in patients with CP, complicated by the development of hepatocellular failure, which

is most characteristic of pancreatic necrosis, reveals a high level of ALT and ASAT. A significant increase in the concentration of LDH indicates large-scale damage to pancreatic cells.

It must be remembered that similar laboratory changes are characteristic of acute myocardial infarction, extensive intestinal infarction, hepatitis of various etiologies.

With biliary pancreatitis due to choledocholithiasis, as well as with the development of a predominant lesion of the pancreas head, the formation of cholestasis syndrome is characteristic, which is expressed in hyperbilirubinemia with a predominance of the direct (bound) fraction of bilirubin, high activity of AST and ALP.

The pronounced changes in the water-electrolyte balance are evidenced by: hemoconcentration, deficiency of potassium, sodium, calcium. With extensive forms of pancreatic necrosis, a decrease in calcium concentration is due to its deposition in foci of steatonecrosis in the form of bile salts.

Additional laboratory methods that are used in the complex of the diagnostic program in patients with pancreatitis are the determination of the concentration of C-reactive protein and procalcitonin (PCT) in the blood. C-reactive protein, along with haptoglobin and alpha-1-antitrypsin, is a protein of the acute phase of inflammation. In acute pancreatitis, its concentration in the blood reflects the severity of the inflammatory and necrotic process, which makes it possible to use this indicator as a diagnostic test to differentiate, on the one hand, edematous pancreatitis and pancreatic necrosis, on the other hand, sterile and infected pancreatic necrosis. Thus, the level of C-reactive protein above 120 mg / l testifies in favor of necrotic lesions of the pancreas, while an increase in its concentration in the dynamics of the disease by more than 30% from the initial level, together with other clinical and laboratory data, reliably confirms the development of pancreatogenic infection.

Instrumental research. At the present stage of the development of imaging methods in surgery, a complex of instrumental techniques is used to improve the diagnosis of CP and its various forms, including ultrasound data, laparoscopy, CT, the results of transcutaneous

punctures of necrosis zones of different localization under the control of ultrasound and CT, endoscopic retrograde cholangiopancreatography (ERCP). Based on the results of these examination methods in the dynamics of the disease and treatment, a clear verification of the clinical and morphological forms of acute pancreatitis is achieved.

Ultrasound is an affordable and minimally invasive method of visual diagnostics in comparison with other instrumental methods, which makes it possible to recommend it as a screening method for suspected acute pancreatitis. Ultrasound provides an assessment of the state of the pancreas, biliary system (cholecystolithiasis, signs of biliary hypertension), abdominal (aneurysm of the abdominal aorta) and pleural cavities. Informativeness of ultrasound in acute pancreatitis is 40–86%, but it does not always help to reliably verify the clinical and morphological form of acute pancreatitis, to characterize the state of the retroperitoneal tissue. The disadvantages of the method are low information content in the development of gastrointestinal paresis, which is observed in 25-30% of cases of acute pancreatitis. The leading ultrasound signs of acute pancreatitis are: an increase in the size of the head, body and tail of the pancreas, the heterogeneity of its echostructure and uneven contours, visualization of fluid formations of various sizes in the parapancreatic zone and abdominal cavity. Involvement of the technique for measuring hemodynamic parameters in the visceral vessels, the density of the pancreas and retroperitoneal tissue makes it possible to increase the specificity, sensitivity and accuracy of ultrasound in pancreatonecrosis. The diagnostic value of ultrasound in differentiating interstitial pancreatitis and pancreatic necrosis is significantly lower than that of CT.

CT is currently the most sensitive method of visual examination ("gold diagnostic standard"), providing versatile information about the state of the pancreas and various areas of the retroperitoneal space. In the comparative aspect of visual diagnostics, CT, in contrast to ultrasound, makes it possible to clearly differentiate dense necrotic masses (necrotic phlegmon) from fluid formations (abscess, pseudocyst) of various localization, to provide information about their interposition, involvement in the inflammatory-necrotic process of BV,

the underlying vascular structures and departments of the gastrointestinal tract. CT should be performed in the dynamics of treatment of a patient with pancreatic necrosis to obtain the necessary information about the prevalence of the pathological process and the development of its complicated forms.

Laparoscopy is an important and widely available diagnostic and treatment method, especially when pancreatic necrosis is suspected. Modern endovideoscopic equipment makes it possible to expand the range of diagnostic and therapeutic procedures performed in patients with acute pancreatitis. The high diagnostic information content of video laparoscopy makes it one of the traditional methods for diagnosing acute pancreatitis and peritonitis of unknown etiology. Laparoscopy is indicated for: patients with peritoneal syndrome, including those with ultrasound signs of free fluid in the abdominal cavity; if necessary, differentiation of the diagnosis with other diseases of the abdominal organs. If it is impossible to conduct laparoscopy, laparocentesis is shown, which partially solves the tasks.

Endoscopic retrograde cholangiopancreatography (ERCP) and endoscopic papillosphinterotomy (EPST) are indicated for acute biliary pancreatitis with obstructive jaundice syndrome (choledocholithiasis, TOX stricture), taking into account the ultrasound imaging of the dilated common bile duct within 72 hours. Patients with signs of cholangitis, EPST or stenting of the common bile duct should be performed urgently.

The method of magnetic resonance imaging (MRI) has been developing in emergency pancreatology in recent years. The advantages of MRI over CT in pancreatitis are the better differentiation of solid and liquid formations localized in the pancreas and retroperitoneal tissue, and less radiation exposure to the medical staff. With all the advantages of diagnostic research, the difficulties of transporting severe patients and the high cost of research limit the widespread use of CT and MRI in the practice of surgical hospitals and intensive care units.

X-ray diagnostic methods have not lost their significance in the complex of methods for examining patients with pancreatitis and, first of all, in the differential diagnosis of acute pancreatitis from

perforation of a hollow organ and mechanical intestinal obstruction. On plain X-ray of the abdominal organs, nonspecific symptoms of acute pancreatitis are: pneumatization of the transverse colon, the presence of small-sized fluid levels in the small intestine. Chest X-ray reveals pleural effusion and basal atelectasis, elevation of the dome of the diaphragm, most often synchronous with the defeat of the corresponding region of the retroperitoneal tissue.

EGD is used to exclude gastroduodenal ulcers and to identify indirect signs of acute pancreatitis.

3. What is the patient's management?

Drug treatment: basic complex of intensive care (treatment of mild acute pancreatitis); pain relief with non-narcotic analgesics; intramuscular or intravenous administration of antispasmodics (drotaverin, etc.), antispasmodics (metamizole sodium and its analogs) and anticholinergics.

Infusion therapy focused on the relief of water-electrolyte disorders in a volume of 40 ml per 1 kg of the patient's body weight. Forced diuresis, session with the achievement of the rate of diuresis of at least 2 ml / kg of the patient's body weight / h during the first 24–48 hours of the session. The use of antibiotic prophylaxis for mild acute pancreatitis does not reduce the incidence of septic complications. Early antisecretory and antienzyme therapy.

Specialized treatment (indicated for patients with severe pancreatitis in addition to the basic complex):

1. Antisecretory therapy (the optimal period is the first three days of the disease): - the drug of choice - Octreotide 100 μg × 3 r subcutaneously; - reserve drugs - Famotidine (40 mg × 2 p iv); Fluorouracil (5% 5 ml IV). In large-scale randomized trials, the effectiveness of octreotide has not been proven.

2. Infusion therapy with rheologically active drugs (dextrans, hydroxyethylated starch - (up to 50 ml / kg / day, etc.).

3. Reimbursement of plasma losses (correction of water-electrolyte, protein losses, etc.: a total of at least 40 ml of the corresponding infusion funds per 1 kg of body weight; the ratio of colloidal and crystalloid solutions is 1: 4).

4. Pain relief - prolonged epidural analgesia with local anesthetics (lidocaine, bupivacaine, ropivacaine), if necessary - with the addition of narcotic analgesics (morphine, fentanyl) 1-2 times a day.

5. Antibacterial chemotherapy - parenteral administration of antibiotics tropic to the pancreas. The advantages for the prevention of purulent complications are: antimicrobial agent from the group of fluoroquinolones (pefloxacin) + metronidazole; cephalosporins of the third generation, preferably with a dual mechanism of excretion - urine-bile - Ceftriaxone or cefoperazone + metronidazole; IV generation cephalosporins (Cefepime) or Cefoperazone + [Sulbactam] + metronidazole; drugs of the carbapenem group. The duration of the course of prophylactic antibiotic therapy should not exceed 7-14 days. In case of infected pancreatic necrosis, antibiotics are prescribed based on the results of a fine-needle aspiration biopsy (puncture), taking into account the sensitivity of the flora.

The effectiveness of prophylactic antibiotic therapy in mild pancreatitis and selective decontamination of the gastrointestinal tract has not been proven, therefore, it cannot be recommended for the treatment of OP.

Nutritional support. When restoring the function of the gastrointestinal tract in patients with pancreatic necrosis, it is advisable to carry out enteral nutrition (nutritional mixtures), which is carried out through a nasojejunal probe, installed distal to the Treitz ligament endoscopically, or during surgery.

Detoxification: plasmapheresis (hardware or discrete) in a volume of at least 50% of the patient's plasma volume and replacement with donor plasma; in the course there are 2-3 sessions with an interval of 24-48 hours.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. Criteria and indicative terms of VUT. VUT criteria: exacerbation of the process (recurrent form); severe pain syndrome (painful form); excretory and endocrine insufficiency (digestive dysfunction); severity of complications.

Estimated terms of VUT: with conservative treatment, depending on the stage - from 2 weeks to 3 months; during the surgical treatment

of VUT depends on the method and scope of the operation, its effectiveness, the degree of insufficiency of the gland function and digestion.

After effective surgical treatment (elimination of obstruction of the biliary tract, normalization of the outflow of pancreatic secretion, elimination of pseudocyst) without dysfunction of the pancreas or mild degree of disruption of VUT - up to 10 months. In all other cases (effective surgical treatment, but pronounced or pronounced dysfunction of the pancreas or digestive function; ineffective surgical treatment) VUT - up to 4 months, followed by referral to MSEC.

Permanent disability. Moderate limitation of vital activity is determined by patients with stage II of the disease, patients after surgical treatment without complications, without impairment or with a mild degree of impairment of the pancreas functions in contraindicated professions and the impossibility of rational employment without a decrease in qualifications or a decrease in the volume of production activity (disabled persons of group III).

A pronounced limitation of vital activity is determined by patients with stage III of the disease, with frequent repeated bleeding and with the failure of intensive care, patients after surgical treatment with external biliary and pancreatic fistulas, patients with large pseudocysts (II group of disability).

A pronounced limitation of vital activity is determined by patients with pronounced exocrine and endocrine insufficiency, with a pronounced dysfunction of digestion, cachexia, alimentary dystrophy with the need for constant outside care (I group of disability).

Dispensary observation. Patients with CP are subject to dispensary observation. With a mild course, a second examination and examination in an outpatient setting is carried out twice a year. Appointed 2 times a year: clinical blood test; general urine analysis; determination of amylase, lipase in blood serum; coprogram.

Ultrasound of the biliary system, pancreas once a year. With a course of moderate severity, examinations are carried out 3 times a year, consultation of a gastroenterologist is required.

Appointed 2 times a year and in case of exacerbation: clinical blood test; general urine analysis; determination of glucose, amylase, lipase, bilirubin, transaminase in blood serum; coprogram.

Therapy is carried out "on demand": the patient himself, when complaints appear, takes enzyme, antisecretory drugs, antispasmodics against the background of adherence to the diet.

In severe CP, the patient is observed by the local therapist and gastroenterologist 4-6 times a year. The volume of research is the same as in CP of moderate severity, as well as the analysis of daily urine for sugar.

In case of persistent remission - examination by a therapist once a year, by a gastroenterologist - according to indications.

Clinical case No. 8

1. What is the preliminary diagnosis?

Preliminary diagnosis: Chronic viral hepatitis D, high activity, stage F4 (METAVIR). Liver cirrhosis, decompensation, severity class C (Child-Pugh). Portal hypertension. Ascites. Hepatic encephalopathy of the II degree. Varicose veins of the esophagus.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research

KLA: anemia (often B12-folate-deficient), pancytopenia - a combination of erythrocytopenia, leukopenia and thrombocytopenia (with hypersplenism syndrome), ESR acceleration.

OAM: increased bilirubin, urobilin in hepatic jaundice.

Biochemical blood test: hepatocellular failure syndrome - a decrease in the level of total protein, albumin, prothrombin, fibrinogen, cholesterol; intrahepatic cholestasis syndrome - increased levels of bilirubin, cholesterol, alkaline phosphatase (ALP), γ-glutamyl transpeptidase (γ-GTP), hypercholesterolemia, hypertriglyceridemia; syndrome of mesenchymal inflammation - hyper-γ-globulinemia, increased thymol test; cytolysis syndrome - an increase in serum aspartate aminotransferase (ASAT), alanine aminotransferase (ALT),

lactate dehydrogenase (LDH) and its isoenzymes (LDH 3,4), bilirubin (conjugated).

Instrumental research. Diagnosis of CP at an early stage is possible thanks to modern examination methods. Sometimes it happens that liver pathologies are detected during preventive examinations, when there are no external signs or painful manifestations.

Ultrasound for liver diseases is one of the necessary techniques. In the initial stages, an increase in the size of the organ occurs, but there are no other signs. In later periods, an inhomogeneous structure of the surface of the organ will be determined, and with a small-nodal CP it will be relatively constant, while with a large-nodal CP one can see separate large nodular formations. In the terminal stage, ultrasound of the liver will show a sharp decrease in the right lobe of the liver - it is she who changes size with CP. Disruption of the work of nearby organs is also determined by ultrasound diagnostics.

Laparoscopy. It is not difficult to diagnose CP with laparoscopy. For this, a small incision is made in the right hypochondrium, a thin endoscope tube is inserted into it. A visual examination of the organ shows which type of cirrhosis affects the organ. Large nodules or an almost uniform surface of the liver can be determined. The enlarged veins of the portal system are also clearly visible.

Biopsy. Another type of research that helps to make the final diagnosis. A biopsy is taken during a laparoscopic examination of the liver, the material is sent for histological examination. With the help of a biopsy, they determine: fragments of small or large nodes, which will show what type of cirrhosis has affected the liver; uneven sizes of hepatocytes, vessels between them are also of different diameters; areas of necrosis are seen, mixed with inflamed areas increased in volume, the transition from one area to another is blurred; in the process of stopping the spread of the pathological process, such a boundary becomes clear. A biopsy helps with the formulation of the diagnosis of LC, since it clearly shows the stage of the process, the state of the organ and gives a prognosis. After the biopsy, the development of a program for the treatment and rehabilitation of the patient begins.

Fibrostroduodenoscopic examination (FGDS). It is used with the manifestation of bleeding, with this type of diagnosis, abnormalities in the work of the organs of the digestive system, closely related to the liver, are visible. Also, with the help of EGDS, the degree of expansion of the hepatic ducts, the condition of the stomach, signs of damage to the pancreas are determined. In the presence of bleeding, the procedure can turn into a therapeutic one, when the affected areas are cauterized with the help of a laser.

Computed tomography (CT). One of the modern methods of examination, which helps to thoroughly examine the affected organ without causing discomfort. Before diagnosing CP with CT, an initial examination is necessary. Then you can offer the patient to undergo the diagnostic procedure, briefly explaining its implementation. The liver itself during the CT scan procedure is clearly visible on the screen, you can see even the slightest changes in its surface. This type of examination is sometimes sufficient for the final diagnosis of cirrhosis, so after it is carried out, you can think about developing a treatment regimen. Since the procedure is non-invasive, this makes it the most acceptable in any patient's condition, therefore CT is used for dynamic monitoring or control of treatment.

Magnetic resonance imaging (MRI). This type of research helps with a long and difficult course, when the slightest discomfort causes the patient suffering. The diagnosis of LC after MRI can be considered definitive, since the study, like CT, is non-invasive and is used to thoroughly examine the liver and surrounding organs. MRI can be used repeatedly to control the quality of treatment and dynamic monitoring of the development of the disease.

3. What is the patient's management?

Drug treatment of liver cirrhosis. In the treatment of cirrhosis, the following areas of drug therapy are used: drugs that improve the metabolism of hepatic cells and stabilize the membranes of hepatocytes.

Transfusion therapy in the treatment of cirrhosis. Blood products, blood components, blood substitutes, electrolyte solutions. Indications for the appointment of transfusion therapy in the treatment of liver cirrhosis are: hemorrhagic syndrome, hepatic cell failure, ascites,

electrolyte imbalance. In hemorrhagic syndrome caused by hepatocellular failure or portal hypertension with hypersplenism, transfusion of freshly prepared blood, native concentrated plasma is indicated. These drugs have a pronounced hemostatic effect as a result of the effect on the blood coagulation system, an increase in the number of platelets. With edematous-ascitic syndrome against the background of hypoproteinemia and hypoalbuminemia, in the treatment of liver cirrhosis, the use of native concentrated plasma and a 20% albumin solution is indicated.

Glucocorticoid hormones in the treatment of liver cirrhosis are prescribed strictly according to indications - the proven activity of the process in the compensated stage of cirrhosis. Drugs in this group are prescribed in the active stage of viral and biliary cirrhosis, as well as in severe hypersplenism. In alcoholic cirrhosis, glucocorticoid therapy is indicated in the case of a pronounced activity of the process due to the addition of acute alcoholic hepatitis, with symptoms of encephalopathy, or in severe cases with symptoms of hepatic cell failure or hypersplenism. The dosage is determined by individual tolerance and the activity of the pathological process.

Detoxification therapy in the treatment of liver cirrhosis. Elimination of dyspeptic disorders and constipation (in order to reduce the absorption of toxic substances formed in the colon), for this purpose, enzyme preparations that do not contain bile acids are prescribed. Adsorbents (for bowel cleansing - enterosorbent, activated carbon, bowel lavage.

Extracorporeal hemocorrection technologies in the treatment of liver cirrhosis. The goals of the technologies of extracorporeal hemocorrection in the treatment of liver cirrhosis: prosthetics of the liver function (the ability to temporarily reduce the functional load of the liver); removal of toxic metabolites from the body with severe liver failure; protection of the liver from the toxic effects of antiviral drugs in cases where the patient needs antiviral therapy; more effective sanitation of foci of infection - technologies of extracorporeal antibiotic therapy are used.

Stem cells in the treatment of CP. A new, promising direction in the treatment of liver cirrhosis is the use of stem cell transplantation. Advances in stem cell biology, which have shown the multipotent capabilities of their tissue differentiation, have made the possibility of tissue regeneration a clinical reality. The use of stem cells in the treatment of LC makes it possible to repair, restore, replace or regenerate the damaged organ in LC and is more effective than pharmacological drugs. Currently, only stem cell transplantation can save a patient dying of CP. Cell therapy using autologous stem cells can solve the problem of LC.

4. Medical and labor expertise. Dispensary observation.

Temporary disability. Temporary disability occurs in the active phase of the disease, with the development of complications. The duration depends on the stage, degree of activity, severity of liver dysfunctions, portal hypertension, systemic manifestations, and the effectiveness of treatment. On average, with CVH (C, C, D) with moderate activity 15–28 days, high activity 30–45 days. (up to 2–3 months), with exacerbation in the initial stage of CP 35–40 days; deployed - 60 days and more.

Contraindicated types and working conditions: work associated with severe physical stress, a high set pace, forced body position, vibration, driving vehicles, traumatization of the epigastric region; exposure to toxic agents - salts of heavy metals, chlorinated hydrocarbons and naphthalenes, benzene and its homologues; high or low temperatures. This takes into account the stage of chronic hepatitis, the nature of the course, the degree of liver dysfunction, the stage of portal hypertension, systemic manifestations, etc.

Permanent disability

III group of disability is determined in connection with the limitation of the ability to self-service, movement, work activity of the 1st stage, patients with chronic hepatitis II stage of a slowly progressive course with exacerbations lasting 4-6 weeks, occurring 2-3 times a year, the activity of the process of the 1st stage. , dysfunction of the liver of mild, less often moderate, and patients with chronic hepatitis IV stage. (LC, stage A according to Child-Pugh) with the same

frequency and duration of exacerbations, the degree of activity and severity of liver dysfunction, with grade II portal hypertension, mild hypersplenism syndrome without hemorrhagic manifestations, working in contraindicated types and conditions of work and in in connection with this, in need of transfer to work in another, accessible profession, or a significant decrease in the volume of production activities.

The II disability group is determined in connection with the limitation of the ability to self-service, movement, work activity of the II degree, patients with chronic hepatitis II and III stages of intermittent recurrent course with frequent (up to 4-5 times a year) prolonged (6-8 weeks) exacerbations , activity of II degree, dysfunction of the liver of moderate or severe degree, severe extrahepatic (systemic) manifestations, as well as patients with chronic hepatitis IV. (Child-Pugh stage B liver cirrhosis) with the same frequency and duration of exacerbations, the degree of activity and severity of liver dysfunctions, with grade III portal hypertension, severe manifestations of hypersplenism syndrome (anemia, leukopenia, thrombocytopenia). In some cases, work may be recommended in specially created conditions (at home).

I group of disability is determined in connection with the limitation of the ability to self-service, movement, work activity of the III stage, patients with chronic hepatitis III stage of a rapidly progressive, continuously recurrent course, with the activity of the III stage, the development of severe hepatic failure, systemic lesions with severe impairment of RV functions, kidneys, other organs, exhaustion, as well as patients with chronic hepatitis IV stage. (CP stage C according to Child-Pugh), with activity of II – III stages, severe liver failure, portal hypertension of IV stage, intoxication and encephalopathy.

Dispensary observation. Therapeutic and recreational activities include adherence to a diet, a categorical prohibition of alcohol, exclusion of taking hepatotoxic drugs, preventive courses of hepatoprotectors (Essentiale, lipoic acid, etc.), supportive immunosuppressive therapy, glucocorticosteroids according to indications, etc. Monitoring of supportive therapy for hepatotoxic glucocorticosteroids, azathioprine). Physiotherapy is contraindicated. Sanatorium treatment is

indicated for patients in the inactive phase of the disease in the stage of compensation (in sanatoriums of the gastroenterological profile).

All patients with LC are subject to dispensary observation. With CP of class A, the frequency of examinations is 2 times a year by a physician (gastroenterologist - once a year or individually), with CP (class B, C) - 2–4 times a year or individually; general practitioner or gastroenterologist (infectious disease doctor, surgeon - if indicated). At each examination, nutrition is monitored and the neuropsychic status is determined.

A clinical blood test (with platelets), a general urine test - at each examination. Biochemical blood test (bilirubin, ALAT, AST, ALP, GGTP, albumin, urea, creatinine, prothrombin index, K, Na) in class A of severity - 2 times a year (in classes B, C of severity - 4 times a year or by indications). Ultrasound of the abdominal organs - 1 or 2 times a year, respectively. FEGDS - depending on the state of varicose veins of the esophagus: in the absence of varicose veins - once every 2 years, with small veins - once a year, with veins of large diameter it is not performed or according to indications (or once a year). ECG - 1-2 times a year.

Activities: prohibition of alcohol, exclusion of smoking, taking hepatotoxic drugs, limiting medication. Monitoring supportive therapy, dieting. Spa treatment is possible only with compensated CP. Physiotherapy is contraindicated in all forms of CP. Observation for life.

Clinical case No. 9

1. What is the preliminary diagnosis?

Preliminary diagnosis: Crohn's disease in the form of ileocolitis with lesions of the ileum, cecum and ascending intestine, moderate attack. Perianal manifestations (posterior transsphincteric incomplete internal fistula of the rectum).

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research.

KLA with obligatory platelet count and leukoformula;

OAM; in a biochemical blood test: a study of electrolytes, an indicator of acute phase inflammation - quantitative CRP, as well as the determination of functional tests of the liver (ALT, AST) and kidneys (creatinine, urea), iron metabolism (ferritin, serum iron, TIBSS) and vitamin D, total protein and albumin, a marker of cholestasis and osteoporosis: alkaline phosphatase; coprogram; definition of HIV (differential diagnosis of diarrheal syndrome). Biological markers of inflammation are proteins - degradation products of neutrophils - lysozyme, lactoferrin and, most sensitive - fecal calprotectin [EL5]. An express test for fecal calprotectin, which is an alternative to the ELISA technique, can be recommended as a screening method that accelerates the clarification of the diagnosis of IBD, as well as for monitoring therapy. Fecal calprotectin levels are significantly higher in colonic inflammation.

Additional. According to the indications, the immunological status is studied (cellular, humoral, CIKi) [EL5]. Infectious diarrhea as well as refractory colitis (resistant to therapy) are excluded by serological and culture tests for infections, including C. difficile (toxins A and B) [EL2]. For the differential diagnosis of ulcerative colitis and Crohn's disease, ANCA, ASCA serological testing can be used. Diagnosis of opportunistic infections before starting biological therapy.

Instrumental research. A frequent localization of CD is the ileum (the terminal section is available for endoscopic examination during ileocolonoscopy) or more proximal sections of the small intestine (10% of patients). In addition, penetrating complications (fistulas, phlegmon, or abscesses) are diagnosed in 15% of patients. Endoscopic or radiological (MRI or CT) examination - techniques aimed at clarifying the location and extent of the disease and planning the most optimal therapy.

Basic imaging techniques

Endoscopic research methods. Consideration should be given to the danger of endoscopic manipulations in patients in the acute phase of the disease due to the likelihood of intestinal perforation. Endoscopic examination of the upper gastrointestinal tract (EGD) and lower sections (ileocolonoscopy) is performed to confirm the diagnosis

of IBD, assess the localization and prevalence of the pathological process, and obtain tissue samples for morphological analysis for the purpose of differential diagnosis between UC and CD, and to detect dysplasia or malignancy. CD is characterized by the presence of transverse ulcers, aphthae, limited areas of hyperemia and edema in the form of a "geographical map", fistulas with localization in any part of the gastrointestinal tract.

Ileocolonoscopy is a first-line CD diagnostic method that allows to identify terminal ileitis, especially minor mucosal defects [EL1]. In terms of information content, it is comparable to radiation diagnostic procedures, such as MRI and CT.

The most commonly used is the Simple Endoscopic Crohn's Disease Scale or Simple endoscopic score (SES-CD). Identification of criteria and scoring is carried out in 5 segments of the intestine.

The activity of the inflammatory process according to SES-CD is assessed as follows: 0–2 points - remission; minimum activity - 3–6 points; moderate activity - 7-15 points; high activity -> 16 points.

Magnetic resonance enterography. This method, along with endoscopic examination, refers to the primary diagnosis of Crohn's disease, and is also useful for differentiating inflammatory and fibrous strictures, monitoring the effectiveness of therapy. It is characterized by high sensitivity for detecting abscesses, internal fistulas and perianal complications. MRI does not involve exposure to ionizing radiation, which is very important given the age of the patients and the need for multiple imaging. When carrying out the technique of MR-enterography, oral contrast agents are used.

Additional visualization techniques. Video capsule endoscopy is a method that allows to clarify the localization of small bowel damage in CD. Before TBEV, it is recommended to perform X-ray examinations (passage of barium through the intestine, CT enterography) or MR-enterography to assess the presence of small bowel strictures. The advantages of the method also include non-invasiveness, non-invasiveness, conducting research without anesthetic support, ease of preparation and the absence of harmful effects on the body.

Histological examination. Crohn's disease is characterized by the following morphological criteria: ulcerative defects; deep slit-like ulcers that penetrate into the submucosa or muscle layer; locality of violation of the architectonics of the mucous membrane - uneven location of crypts; inflammatory transmural infiltrate - spreads from the mucous membrane to the submucosa, muscular and serous membranes; plasma cell gradient, basal plasmacytosis; a decrease in the number of goblet cells with a decrease in mucin; the presence of granulomas, their localization, size, fusion of granulomas, cellular composition.

Radiation methods (MR and CT) - enterography, ultrasonography, in addition to endoscopic diagnostics, are performed in order to clarify the localization of damage to the small intestine and small pelvis, to exclude complications - stenoses or fistulas in CD [EL1]. CT and MRI are currently the standard of examination in the diagnosis of Crohn's disease. Both methods make it possible to clarify the activity and extent of the lesion, the thickness of the intestinal wall and the enhancement of intravenous accumulation of contrast. MR or CT examination of the small intestine requires additional contrast administration.

Ultrasound examination: ultrasonography is a non-invasive test, with good tolerance, which does not cause ionizing radiation to the patient. The most convenient for visualization are the ileocecal, sigmoid sections, as well as the ascending and descending sections of the colon (the sensitivity of the method is 75–94%, the specificity is 67–100%).

Magnetic resonance imaging (MRI) of the pelvis to exclude perianal lesions, pelvic pathology. Fistulography - in the presence of external fistulas. Computed tomography is traditionally considered the "gold standard" for detecting extraintestinal manifestations of the disease, such as abscesses, cellulitis, and enlarged lymph nodes. CT makes it possible not only to assess the thickness of the wall of the affected areas of the intestine, but also to recognize complications (perforation, fistulas). The information content of CT results largely depends on the degree of contrasting of the intestinal lumen, therefore, the study requires special techniques for its implementation.

3. What is the patient's management?

Drug treatment, depending on the location and activity of the inflammatory process, is presented in Table 14.

Hormone therapy

Systemic corticosteroids (prednisone, prednisolone) are used if symptoms persist with mesalazine [EL2ab]. In the presence of systemic manifestations, corticosteroids are also the drugs of choice. The response to intravenous steroids should be assessed on the third day [EL2b]. More than 50% of patients who were prescribed corticosteroids subsequently become either "steroid dependent" (steroid dependence - the inability to reduce the dose of corticosteroids below a dose equivalent to 10 mg of prednisolone per day within 3 months from the start of treatment, or an exacerbation of the disease within 3 months. after cessation of steroid therapy), or "steroid-resistant" (steroid-resistance - the preservation of disease activity when taking prednisolone at a dose of 0.75 mg / kg / day for 4 weeks), especially smokers and patients with colon lesions.

Topical steroids. Budesonide is recommended as the first line of therapy in patients with mild to moderate severity of CD (low activity of the process), the localization of the lesion in which is limited to the ileum and / or ascending colon. The budesonide dose is 9 mg / day for 6 weeks, with a dose reduction of 3 mg every 2-3 weeks.

Immunomodulators. Thiopurines. Azathioprine or 6-mercaptopurine is prescribed to maintain the remission achieved with steroid use. The proven beneficial effect of adding azathioprine and 6-mercaptopurine to corticosteroid treatment [EL2b]. Thiopurines are not recommended for inducing remission in active Crohn's disease [EL2b], but are effective in maintaining remission [EL3a]. For optimal results, thiopurine treatment may take more than 4 months. (after reaching the target dose).

Methotrexate. Parenteral administration of methotrexate, 25 mg subcutaneously or intramuscularly once a week, is effective in achieving remission and reducing the dose of steroids in steroid-resistant or steroid-dependent patients with CD. Smaller doses are ineffective.

Maintenance of remission is carried out with methotrexate at a dose of 15 mg / week.

Biological therapy. Factors influencing the decision to use biological therapy: achievement of rapid steroidal remission; complete healing of the mucous membrane; reducing the frequency of hospitalizations and surgical interventions; improving the quality of life of patients. Attention should be paid to severe infections that may develop with immunosuppressive therapy, including anti-OI therapy [EL3].

Anti-TNF drugs (infliximab, adalimumab) are used to induce and maintain remission with moderate to high CD activity. The drugs are indicated for therapy: moderate and severe CD in patients who do not respond to sequential therapy with corticosteroids and cytostatics, and methotrexate; fistulizing CD, including perianal fistulas; steroid-dependent course; some extraintestinal manifestations. Infliximab is a chimeric IgG monoclonal anti-TNFα antibody with potent anti-inflammatory effects, possibly associated with inflammatory cell apoptosis. The combination of infliximab with thiopurines is significantly more effective in patients who have not previously received thiopurines. Adalimumab is a fully humanized recombinant anti-TNFα monoclonal antibody. Adalimumab selectively binds to TNFα and neutralizes its biological functions by blocking interaction with surface cellular p55 and p75 receptors for tumor necrosis factor (TNF).

Biosimilars. For each biosimilar, pharmacodynamic, pharmacokinetic, immunogenicity and clinical efficacy studies of equivalence with the original drug should be provided in the approved indications. Currently, the CT P13 infliximab biosimilar has been registered in the Republic of Kazakhstan, which has a molecular structure similar to that of the reference product. Both drugs (original and biosimilar) have similar physical and chemical properties, biological activity, pharmacokinetics, and similar safety in animal and volunteer studies.

Antiadhesive drugs. Vedolizumab is a humanized monoclonal antibody that binds exclusively to α4β7-integrin, which is expressed predominantly on T-helper lymphocytes migrating into the intestine. The drug is indicated for use in moderate to high activity of Crohn's disease in patients with an inadequate response, treatment

failure or intolerance to one or more standard therapy drugs or tumor necrosis factor-alpha (TNFα) inhibitors. Favorable safety profile, minimal systemic immunosuppression (for patients at high risk of developing opportunistic infections, including elderly patients (≥ 65 years).

In patients receiving biologics, response (clinical and endoscopic) is assessed at 8–12 weeks. The tactics of therapy in the absence of effectiveness (primary or secondary loss of response) are discussed in the section "Monitoring the effectiveness of therapy".

Anti-IL 12, 23. Ustekinumab is a fully human monoclonal antibody of the IgG1k class with specificity for the p40 subunit of human interleukins (IL) IL-12 and IL-23. The drug blocks the biological activity of IL-12 and IL-23, preventing their binding to the IL-12R-β1 receptor expressed on the surface of immune cells. It is used in the treatment of moderate to severe Crohn's disease in patients with an inadequate response, lack of efficacy, contraindications or intolerance to standard therapy and / or tumor necrosis factor inhibitors.

Management tactics in case of loss of response to anti-OO therapy. When a primary non-response to anti-OI therapy is confirmed, switching to vedolizumab or ustekinumab is recommended due to the different mechanism of action of this drug. Secondary loss of response during maintenance therapy may result from insufficient concentration of the drug in the blood (therapeutic concentration 3–7 μg / ml) or the formation of antibodies to the drug. About 3% of patients develop antibodies to the drug within 1 year of therapy. But. By the 3-year period of maintenance therapy, antibodies to infliximab are found in 15% of patients. Therapeutic monitoring of drugs in the case of a suboptimal drug concentration allows to optimize therapy (increasing the dose of infliximab to 10 mg / kg or reducing the interval between injections: up to 4-6 weeks for infliximab and up to 1 week for adalimumab; increasing the dose of golimumab to 100 mg every 4 weeks When antibodies to the drug are detected, the tactic of switching to another anti-TNF drug, antiadhesive drug vedolizumab or anti IL-12, 23 ustekinumab is undertaken.

In order to increase the effectiveness of therapy and prevent the development of secondary loss of response, the production of antibodies

to the drug (anti-drug antibodies, ADA), it is recommended to combine inflixamab and adalimumab with thiopurines or methotrexate.

Switching between the original drug and the biosimilar is undesirable, since there is currently no sufficient research data on the safety and efficacy of cross-switching (between two biosimilars), reverse switching (between the original drug and biosimilar), as well as multiple and repeated switches.

Antibacterial drugs - when there is a threat of development or the presence of septic complications, as well as for the treatment of fistulizing CD.

Metronidazole in CD at a dose of 20 mg / kg / day significantly reduces the activity of the inflammatory process, its effectiveness is higher in colonic CD localization. When appointed for more than 6 months. the risk of developing peripheral neuropathy increases.

Ciprofloxacin. Presumably, ciprofloxacin in the treatment of mild exacerbations of the disease is comparable in effectiveness to mesalazine and steroids, but the results of placebo-controlled studies are not presented.

Rifaximin. In an open, uncontrolled study, it was shown that taking rifaximin at a dose of 600-800 mg per day for 12-16 weeks. reduces the severity of CD symptoms in patients with low disease activity.

Other treatments. Prebiotics are indigestible carbohydrates such as fructooligosaccharides - oligosaccharides, metabolized under the influence of intestinal microflora to short-chain fatty acids (which have a protective effect on the mucous membrane). Probiotics. The best studied for IBD are E. coli Nissle, 1917, VSL # 3, Lactobacillus rhamnosius GC, Bifidobacterium, and Saccharomyces boulardii. The effect of prebiotics and probiotics in IBD is due to the effect on the intestinal microflora, the correction of metabolic disorders. Through the production of short-chain fatty acids, they lower the intraluminal pH, thus inhibiting the growth of pathogenic flora. Butyric acid (butyrate), in addition to a direct anti-inflammatory effect, plays an important role in the metabolism of colonocytes and the restoration of damaged epithelium. Indicators of the effectiveness of treatment and the safety of diagnostic and treatment methods: achievement and maintenance of

steroidal remission (clinical and endoscopic) for at least 1 year; prevention of complications, surgical interventions.

4. Medical and labor expertise. Dispensary observation.

Temporary disability

Temporary disability with exacerbation of Crohn's disease is 45-60 days. The CUT criteria are the exacerbation phase, the development of complications, the nature of the course. The development of complications increases the terms of temporary disability. With a surgical method of treatment - up to 2 months. The criterion for the restoration of working capacity is the achievement of a phase of stable remission in the absence of complications, as well as contraindicated conditions and types of work in the patient's profession.

Contraindicated conditions and types of work: significant physical and neuropsychic stress; work associated with a forced position of the body, tension of the abdominal press, inability to comply with a diet, in adverse climatic conditions, as well as associated with exposure to gastrogenic poisons (lead, tin, arsenic), vibration, radiation, etc.

Permanent disability

Group I: severe course of the disease with widespread lesions of the colon, with the failure of the therapy and the development of local and general complications; patients with a removed colon and permanent ileostomy with complications, when patients need constant outside care. Group II: patients with widespread lesions of the large intestine, severe progressive course, with persistent significant impairment of intestinal function in the absence of treatment effect; patients with intestinal stoma in cases of unfavorable clinical course (frequent loose stools, digestive disorders II – III century). Group III: distal colon lesion, characterized by annual exacerbations (1-3 times a year) lasting 30-40 days (moderate severity of the course), intestinal stoma with good functioning; in the presence of contraindicated conditions and types of work and the impossibility of rational employment on VK.

Dispensary observation. Patients with Crohn's disease are monitored by a family doctor 2 times a year, and an examination by an otorhinolaryngologist, gastroenterologist, dentist and psychotherapist is required once a year.

Research within the framework of dispensary observation of patients with Crohn's disease: complete blood count 2 times a year; general urine analysis 2 times a year; feces for coprogram 2 times a year; Ultrasound of the abdominal organs at diagnosis, and then according to indications; a study on giardia when a diagnosis is made, and then according to indications; study of feces for dysbiosis according to the same scheme; lactase curve; colonoscopy, irrigoscopy according to the same scheme; FGDS; crops for pathogenic intestinal flora.

Clinical case No. 10

1. What is the preliminary diagnosis? Preliminary diagnosis: Ulcerative colitis, acute form, moderate severity.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory research. KLA with obligatory platelet count and leukoformula; OAM; in a biochemical blood test: a study of electrolytes, an indicator of acute phase inflammation - quantitative CRP, as well as the determination of functional tests of the liver (ALT, AST) and kidneys (creatinine, urea), iron metabolism (ferritin, serum iron, TIBC) and vitamin D, total protein and albumin, a marker of cholestasis and osteoporosis: alkaline phosphatase; stool test; definition of HIV (differential diagnosis of diarrheal syndrome).

Biological markers of inflammation are proteins - degradation products of neutrophils - lysozyme, lactoferrin and, most sensitive, fecal calprotectin. A rapid test for fecal calprotectin, which is an alternative to the ELISA technique, can be recommended as a screening method that will correct the clarification of the diagnosis of IBD, as well as for monitoring therapy. Fecal calprotectin levels are significantly higher in colonic inflammation.

Additional studies: According to the indications, the immunological status is studied (cellular, humoral, CECi). Infectious diarrhea, as well as refractory colitis (resistant to therapy), are excluded by serological and culture tests for infections, including C. difficile

(toxins A and B). For the differential diagnosis of ulcerative colitis and Crohn's disease, ANCA, ASCA serological testing can be used.

Diagnosis of opportunistic infections should be carried out before starting biological therapy.

Instrumental research

Basic methods: The danger of endoscopic manipulations in patients in the acute phase of the disease due to the likelihood of intestinal perforation should be taken into account.

Endoscopic research methods: endoscopic examination of the upper and lower gastrointestinal tract is performed to confirm the diagnosis of IBD, assess the localization and prevalence of the pathological process and obtain tissue samples for morphological analysis for the purpose of differential diagnosis between UC and CD, detection of dysplasia or malignancy.

Histological examination. Colon mucosa biopsy is performed in the following cases: at the initial diagnosis; in case of doubts about the correctness of a previously made diagnosis; with a long history of UC (more than 7–10 years) - chromoendoscopy with targeted biopsy or step biopsy (from each section of the colon) to exclude epithelial dysplasia.

X-ray methods. In the course of the study, the width of the intestinal lumen, the severity of haustration, the contours of the intestinal wall, as well as changes in the mucous membrane are assessed. IBD is characterized by the presence of rigidity of the intestinal wall and its fringed outlines, strictures, abscesses, tumor-like conglomerates, fistulous passages, uneven narrowing of the intestinal lumen up to the symptom of "lace".

In the case of high activity of UC, a survey study of the abdominal organs is carried out to exclude the toxic megacolon.

Additional methods of instrumental research: Magnetic resonance imaging: MR-cholangiopancreatography is the primary research method for diagnosing sclerosing cholangitis, which is associated with ulcerative colitis in 70–90%. Computed tomography: It is considered the "gold standard" for detecting extraintestinal manifestations of the disease, such as abscesses, cellulitis, swollen lymph nodes.

If colon stenosis is present and a complete endoscopic examination is not available, CT colonography may be performed.

Ultrasound examination: Ultrasonography is a non-invasive test, with good tolerance, which does not cause ionizing radiation to the patient.

ECG to diagnose possible rhythm disturbances (hypokalemia, hypomagnesemia, etc.); Chest x-ray / chest CT (exclusion of a specific process); Ultrasound examination of OBP; X-ray densitometry to exclude osteoporosis.

3. What is the patient's management?

Medication. UC therapy, depending on localization and activity, is presented in Table 25.

Ulcerative colitis of minimal activity

Proctitis. To achieve clinical remission, rectal forms of 5-ASA at a dose of 1 gram per day are more effective than tableted forms.

Left-sided colitis. Therapy 1-4 g local (suppositories or enemas) or 2.0-2.4 g / day tableted forms of mesalazine. In terms of effectiveness, sulfasalazine is not inferior to mesalazine, but higher doses of 4.0 g are required with concurrent folate intake. To clarify the clinical (symptomatic response), it takes 2 to 4 weeks.

Total colitis. Oral mesalazine 2.0-2.4 g / day or sulfasalazine at least 4.0 g

Ulcerative colitis of moderate activity

Proctitis. If local forms of mesalazine are ineffective, it is recommended to prescribe oral mesalazine 2.4–4.8 g / day or rectal forms of corticosteroids (suppositories with prednisolone 20 mg 2 times a day) with an assessment of the response after 2 weeks. In the absence of effect, systemic steroids are prescribed in a dose equivalent to 30-40 mg of prednisolone per day or topical steroids (budesonide MMX at a dose of 9 mg per day). With the development of hormone dependence, immunosuppressive therapy with azathioprine 2 mg / kg or 6-mercaptopurine 1.5 mg / kg is recommended; and / or biologicals.

Left-sided or total colitis. Combined mesalazine therapy: oral (granules, tablets, MMX tablets) 3-4.8 g / day and local forms (in enemas 2-4 g / day). The effectiveness of therapy is assessed at 2-4 weeks.

If the answer is positive, therapy lasts up to 6-8 weeks. In the absence of the effect of 5-ASA, oral administration of topical (budesonide MMX at a dose of 9 mg / day for 8 weeks) or systemic corticosteroids (at a dose equivalent to 40 mg of prednisolone for 2 weeks) is indicated. In the absence of the effect of GCS, it is possible to use biological therapy with anti-TNF or vedolizumab.

Highly active ulcerative colitis

To exclude toxic dilation or perforation of the colon, a plain abdominal x-ray should be performed. Endoscopic examination should be performed without preparation, as it increases the risk of developing toxic dilation.

First-line therapy: IV corticosteroids: methylprednisolone 60 mg once a day or hydrocortisone 100 mg 4 times a day. Evaluation of effectiveness is carried out on the 3rd day.

Supportive therapy for ulcerative colitis. The goal of maintenance therapy is to maintain steroid-free clinical and endoscopic remission. The choice of drugs for maintenance therapy is determined by: the extent of the lesion; the duration of the disease (frequency and activity of exacerbations); ineffectiveness or side effects of previous therapy; the safety of maintenance drugs; cancer prevention.

For patients who have achieved remission on 5-ASA, the recommended maintenance dose of mesalazine is at least 2 g / day. When remission is achieved, induced by GCS, maintenance therapy is carried out with azathioprine 2 mg / kg (or 6-MP 1.5 mg / kg) for at least 2 years. Remission achieved with biological therapy drugs (anti-TNF or antiadhesive drug vedolizumab) is supported by the same drug.

5-ASA (mesalazine) is effective in the treatment (induction and maintenance of remission) of UC of minimal and moderate activity. Enemas or mesalazine suppositories are used for the distal form of the disease. Combination therapy with oral and rectal 5-ASA preparations may be more effective in active distal disease, as well as in left-sided or total colitis. Evaluation of efficacy is performed 4–8 weeks after induction.

Hormone therapy. Evaluation of the effectiveness of oral steroids is carried out on the 2nd week, for intravenous steroids - on the third day.

More than 50% of patients who have been prescribed corticosteroids subsequently become either “steroid dependent” or “steroid refractory”. Steroid dependence - the inability to reduce the dose of corticosteroids below a dose equivalent to 10 mg of prednisolone per day for 3 months. from the start of treatment, or exacerbation of the disease within 3 months. after stopping steroid therapy, or the need for two or more courses of corticosteroids over a 12-month period. Steroid refractoriness is the preservation of disease activity when taking prednisolone at a dose of 0.75 mg / kg / day for 4 weeks. 4 weeks.

Topical steroids. Budesonide MMX is an oral corticosteroid, due to its form it is distributed along the entire length of the colon, which makes it possible to use it for left-sided and total colitis. As a result of low systemic bioavailability associated with the effect of the first passage through the liver, inactive metabolites are formed (minimizing the side effects of this group of drugs). Due to the high safety profile (no systemic side effects of other steroids), budesonide MMX is a first-line hormone therapy.

Immunomodulators: Thiopurines. Azathioprine or mercaptopurine is prescribed to maintain remission achieved with steroids if mesalazine is not effective enough. The proven beneficial effect of adding azathioprine and 6-mercaptopurine to corticosteroid treatment. Response to thiopurines to maintain steroidal remission should be assessed at 10–12 weeks. For optimal results, thiopurine treatment may take more than 4 months. (after reaching the target dose).

Methotrexate is an alternative for thiopurine intolerance. Parenteral administration of methotrexate is effective in achieving remission and reducing the dose of steroids in steroid-resistant or steroid-dependent patients. The answer is scored at 8-16 weeks.

Calcineurin inhibitors. Cyclosporine. Intravenous cyclosporine is a salvage therapy for patients with refractory ulcerative colitis at high risk of colectomy. Further, for oral administration, it is necessary to control the level of the drug in the blood (target level 100-200 ng / ml)

at 0, 1 and 2 weeks, and then monthly. Before starting therapy, blood cholesterol and magnesium levels are determined. The drug is rarely used for more than 3–6 months due to its high toxicity.

Biological therapy. Factors influencing the decision to use biological therapy: • achievement of rapid steroid-free remission; complete healing of the mucous membrane; reducing the frequency of hospitalizations and surgical interventions; improving the quality of life of patients.

Particular attention should be paid to severe infections that may develop during immunosuppressive therapy, including anti-TNF therapy. Anti-TNF drugs (infliximab, adalimumab, and golimumab) are used to induce and maintain remission in moderate to high UC activity. All currently available anti-TNFα drugs have a similar efficacy and safety profile, so the choice of drug is determined by the availability, route of administration, patient preference and cost of the drug. The drugs are indicated for moderate to severe ulcerative colitis in patients who have not responded to previous stages of therapy, including therapy with corticosteroids, mercaptopurine or azathioprine (or if these drugs are contraindicated in patients).

Infliximab is a chimeric IgG monoclonal anti-TNFα antibody with potent anti-inflammatory effects, possibly associated with inflammatory cell apoptosis.

Adalimumab is a fully humanized recombinant anti-TNFα monoclonal antibody. Adalimumab selectively binds to TNFα and neutralizes its biological functions by blocking interaction with surface cellular p55 and p75 receptors for TNFα.

Golimumab is a fully humanized recombinant anti-TNFα monoclonal antibody.

Adalimumab and golimumab are subcutaneous drugs, which makes it possible to use this therapy in outpatient practice. The advantage of these drugs is their low immunogenicity, which results in a lower risk of systemic and local hypersensitivity reactions (associated with low production of antibodies to the drug, in comparison with other anti-TNFα agents).

Biosimilars. For each biosimilar, pharmacodynamic, pharmacokinetic, immunogenicity and clinical efficacy studies of equivalence with the original drug should be provided in the approved indications. Biosimilars have similar physical and chemical properties, biological activity, pharmacokinetics, and similar safety in animal and volunteer studies.

Antiadhesive drugs. Vedolizumab is a humanized monoclonal antibody that binds exclusively to α4β7-integrin, which is expressed predominantly on T-helper lymphocytes migrating into the intestine. The drug is indicated for use in moderate to high activity of ulcerative colitis in patients with an inadequate response, treatment failure or intolerance to one or more standard therapy drugs or tumor necrosis factor alpha (TNFα) inhibitors. Favorable safety profile, minimal systemic immunosuppression (for patients at high risk of developing opportunistic infections, including elderly patients (≥ 65 years). In patients receiving biologicals, the response (clinical and endoscopic) is assessed at 8-12 weeks. Tactics therapy in the absence of efficacy (primary or secondary loss of response) is discussed in the section "Monitoring the effectiveness of therapy".

Probiotics. The best studied for IBD are E. coli Nissle 1917, VSL # 3, Lactobacillus rhamnosius GC, Bifidobacterium, and Saccharomyces boulardii. Studies have shown a higher efficacy of combination therapy with mesalazine or immunosuppressants with probiotics in maintaining remission [EL3]. The best studied for IBD are E. coli Nissle 1917, VSL # 3, Lactobacillus rhamnosius GC, Bifidobacterium, and Saccharomyces boulardii.

4. Medical and labor expertise. Dispensary observation.

Temporary disability

Able to work patients with mild and moderate severity of the disease in the phase of remission in the absence of contraindicated working conditions. The CUT criteria are the exacerbation phase, the development of complications, the nature of the course. The duration of temporary disability with mild course - 2-3 weeks, with moderate severity - 1.5-2 months, with severe - 2 months or more. The development of complications increases the terms of temporary disability.

With a surgical method of treatment - up to 2 months. The criterion for the restoration of working capacity is the achievement of a phase of stable remission in the absence of complications and contraindicated conditions and types of work in the patient's profession.

Significant physical and neuropsychic stress; work associated with a forced position of the body, tension of the abdominal press, the inability to comply with the diet, in adverse microclimatic conditions, as well as associated with the effects of gastrogenic poisons (lead, tin, arsenic), vibration, radiation, etc.

Permanent disability

Indications for referral to MSEC: 1) severe course of the disease; 2) moderate course of NUC in the absence of a positive effect of treatment; 3) moderate and mild severity of the course in the presence of contraindicated conditions and types of work and the impossibility of employment in the VKK; 4) severe neuropsychic disorders (pathological personality development, neurosis-like states); 5) the presence of a poorly functioning intestinal stoma with impaired digestion.

The required minimum examination when referring patients to the MSE: a) general blood count; b) general urine analysis; c) coprogram; d) sowing feces on the dysentery group; e) sigmoidoscopy; f) irrigoscopy; g) protein and protein fractions.

Additional studies: a) colonoscopy; b) biopsy of the intestinal mucosa; c) immunological studies.

The decision to extend treatment for temporary incapacity for work for more than 4 months is made by the ITU with a prolonged exacerbation, but with a favorable prognosis.

Criteria for defining disability groups. Group I: severe course of the disease with widespread lesions of the colon, with the failure of the therapy and the development of local and general complications (arthritis, severe anemia, severe violations of protein and water-electrolyte metabolism); patients with a removed colon and permanent ileostomy with complications (ileostomy dysfunction, intestinal fistulas, frequent intestinal obstruction), when patients need constant outside care.

Group II: patients with widespread lesions of the large intestine, severe progressive course, with persistent significant impairment of intestinal function in the absence of treatment effect; patients with intestinal stoma in cases of unfavorable clinical course (frequent loose stools, digestive disorders II – III century). In some cases, the II group of disability is established in patients with UC in connection with a pronounced pathological development of the personality (depressive-hypochondriacal or astheno-neurotic syndrome).

Group III: distal colon lesion, characterized by annual exacerbations (1-3 times a year) lasting 30-40 days (moderate severity of the course), intestinal stoma with good functioning; in the presence of contraindicated conditions and types of work and the impossibility of rational employment on VK.

Patients who underwent subtotal resection of the large intestine with the imposition of a cecostomy (well-functioning), in the absence of contraindicated conditions and types of work and a high work orientation, can be recognized as able-bodied.

Dispensary observation. Patients with chronic colitis with rare exacerbations and without severe dyskinesia of the colon are observed by a district therapist in the II dispensary group. The frequency of examinations by a therapist and gastroenterologist - once a year, by a proctologist and an oncologist, patients are examined according to indications. Sigmoidoscopy, irrigoscopy, colonoscopy are performed if necessary. Wellness activities consist in the organization of proper nutrition, normalization of the stool, spa treatment or treatment in a dispensary.

Patients with chronic colitis with frequent exacerbations are observed by a local therapist in the III dispensary group. The frequency of examinations by a therapist, gastroenterologist and proctologist - 2 times a year, by an oncologist - according to indications. It is advisable to undergo a complete inpatient examination once a year. Wellness measures consist in proper nutrition, stool normalization, herbal medicine, in case of exacerbation of chronic colitis, inpatient treatment is carried out according to the above program.

Consultation of narrow specialists: consultation of a surgeon - if acute toxic dilatation of the colon is suspected, in the absence of positive dynamics from conservative therapy); consultation with an infectious disease specialist - in the case of an opportunistic infection, differential diagnosis with infectious diseases (diarrheal syndrome); consultation with a phthisiatrician - exclusion of latent infection before the induction of TNF therapy; consultation of other narrow specialists - according to indications: obstetrician-gynecologist / gynecologist - in case of patient's pregnancy.

Chapter 9. NEPHROLOGY SECTION

Clinical case No. 1

Patient N, 38 years old, lawyer, was admitted to the polyclinic to the family doctor with complaints of general weakness, nausea, lethargy, periodic headaches.

It is known from the anamnesis that there are no chronic diseases, however, when viewing the outpatient chart, changes in urine tests in the form of proteinuria over the past three years were revealed. Heredity is burdened on the father's side: gout. She didn't get sick with tuberculosis. ARVI 1-2 times a year.

On objective examination. The general condition is moderate severity. Consciousness is clear. The position is active. Satisfactory nutrition. The skin is pale, dry. Subcutaneous fat has a homogeneous consistency. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical thrust is located in the V intercostal space 1 cm outside of the left mid-clavicular line. With percussion, the left boundary shifted to 1 cm. During auscultation, the heart tones are clear, rhythm is regular, accent of the II tone over the aorta, no murmurs. Blood pressure 170/110 mm Hg, heart rate 72 per minute.

Respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a clear pulmonary sound is determined, the boundaries of the lungs are within normal limits. During auscultation over the lungs, vesicular respiration is determined on both sides, no wheezings.

On palpation, the abdomen is soft, painless. The percussive boundaries of the liver are within normal limits. The gallbladder is

not palpable, palpation in its projection is painless. Defecation and diuresis are normal.

Complete Blood Count: RBC – 3,0x10^{12}/L, Hb –100 g/L, MCH – 27 pg/cell, WBC – 7,8x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 35 mm/h.

General urine analysis: specific gravity - 1002, protein - 1.0 g/l, WBC - 4-5 in f/v, RBC - 5-8 in f/v, hyaline cylinders, granular. Rehberg's sample: creatinine - 250 mmol / l, glomerular filtration - 30 ml/min., tubular reabsorption - 97%.

Ultrasound of the kidneys: the kidneys are located in a typical place, the contours are smooth, the dimensions are 7.8-4.0 cm, the parenchyma is thinned, significantly compacted - 0.9 cm, there is no differentiation between the cortical and cerebral layer. Signs of nephrosclerosis. Kidney mobility is within normal limits.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 2

Patient N, 18 years old, driver, was admitted to the polyclinic for an appointment with a family doctor with complaints of discoloration of urine, general weakness.

It is known from the anamnesis that catarrhal phenomena appeared a week ago, subfebrile temperature rose. On the 3rd day from the onset of the disease, he noticed a change in the color of urine - it became reddish, connects it with the season of cherries, which he has eaten a lot lately.

On objective examination: The general condition is satisfactory. Consciousness is clear. The position is active. Satisfactory nutrition. The skin is of normal color, clean, normal humidity. Subcutaneous fat has a homogeneous consistency. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart tones are clear, rhythmic, no murmurs. Blood pressure 120/70 mm Hg, heart rate 72 per minute.

Respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a clear pulmonary sound is determined, the boundaries of the lungs are within normal limits. During auscultation over the lungs, vesicular respiration is determined on both sides, no wheezings.

On palpation, the abdomen is soft, painless. The percussive boundaries of the liver are within normal limits. The gallbladder is not palpable, palpation in its projection is painless. Defecation and diuresis are normal. Pasternatsky's symptom is negative on both sides. Urination is free, painless, there is no peripheral edema.

Complete Blood Count: RBC – 4,2x10^{12}/L, Hb –130 g/L, MCH – 27 pg/cell, WBC – 5,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 10 mm/h.

General urinalysis: specific gravity - 1018, protein - 0.18 g/l, WBC - 1-2-3 in f/v, RBC – a lot in f/v., hyaline cylinders, granular.

Ultrasound of the kidneys: the kidneys are located in a typical place, the dimensions are 10-5 cm, the parenchyma is 19 mm, slightly increased echogenicity, the cup-pelvis complex is not changed, the mobility of the kidneys in the standing position is not increased. No shadows of suspicious concretions were detected.

Urine analysis for BK by luminescent method: not detected.

Nephrobiopsy: the preparation contains a fragment of renal parenchyma with up to 10 glomeruli, proliferation of mesangial cells, expansion of the mesangial matrix is noted in all glomeruli. Conclusion: this morphological picture can be regarded as mesangioproliferative glomerulonephritis.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 3

Patient N, 42 years old, a flight attendant, entered the polyclinic to a family doctor, where he said that after 2 weeks he was in Turkey, where he fell ill with angina. He was treated with folk methods. Edema suddenly appeared this morning.

It is known from the anamnesis that chronic diseases – flat feet of the 3rd degree, atopic dermatitis. Heredity is burdened on the mother's side: rheumatoid arthritis, on the father's side: moderate myopia, chronic glomerulonephritis. He was not ill with tuberculosis. ARVI gets sick 1-2 times a year.

On objective examination: The general condition of moderate severity. Consciousness is clear. The position is passive. Satisfactory nutrition. Pallor and puffiness of the face, massive swelling of the legs, lower back, ascites. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

In the lungs, during auscultation in the lower parts, breathing is weakened. Heart rhythm is regular, clear, no murmurs. Blood pressure is 190/120 mm Hg. HR 100 b/min.

The abdomen is soft, painful when palpated in the area of the projection of the kidneys. Defecation, diuresis - normal.

1. **Complete Blood Count:** RBC – 4,6x10^{12}/L, Hb –120 g/L, MCH – 27 pg/cell, WBC – 8,3x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 20 mm/h.

2.General urinalysis: specific gravity - 1010, protein - 0.6 g /l, RBC - 50-60 in f/v, cylinders: hyaline, granular.

3. Creatinine level: 350 mmol/l.

4. Blood test for electrolytes: K - 5.3 mmol/l, Na - 150 mmol/l, Ca - 2.2 mmol/L, Cl - 97 mmol/l

5. ASL-O - 320 units.

6. Total protein: 65 g/l

7. Ultrasound of the kidneys: the kidneys are located in a typical place, the dimensions are 12.5 x 7 cm, the parenchyma is edematous 22 mm, the renal pelvis is not changed.

Questions:

1. What is the preliminary diagnosis?

2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?

4. Medical and labor expertise. Dispensary observation

Clinical case No. 4

Patient N, 50 years old, a farmer, a resident of rural areas, entered the polyclinic for an appointment with a family doctor and said that this morning his temperature suddenly rose to 40 °C, the amount of urine sharply decreased, lower back pain, nausea, vomiting appeared.

It is known from anamnesis that chronic diseases – obesity of the 2nd degree, allergic conjunctivitis. Heredity is burdened on the mother's side: hypertension of the 2nd degree, on the father's side: psoriasis, alopecia. He was not ill with tuberculosis. ARVI gets sick

about 6 times a year. The day before the above complaints, the patient had contact with toxic substances (chemicals), which caused severe weakness, and then fever, nausea, vomiting.

On objective examination: The general condition is severe, the face is hyperemic, there are single petechial rashes on the skin of the abdomen, pronounced injection of sclera vessels. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart tones are muted, rhythm is regular, no murmurs. Blood pressure 110/70 mm Hg, heart rate 72 per minute.

Respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a clear pulmonary sound is determined, the boundaries of the lungs are within normal limits. During auscultation over the lungs, vesicular respiration is determined on both sides, no wheezes.

On palpation, the abdomen is soft, painful when palpated in the area of the projection of the kidneys. The percussive boundaries of the liver are within normal limits. The gallbladder is not palpable, palpation in its projection is painless. Pasternatsky's symptom is positive on both sides. There is no peripheral edema. Diuresis – 100 ml.

1. **Complete Blood Count:** RBC – $4{,}1x10^{12}$/L, Hb –131 g/L, MCH – 27 pg/cell, WBC – $15{,}21x10^{9}$/L, neutrophils bands – 12%, neutrophils segments – 65%, lymphocytes – 8%, monocytes – 14%, eosinophil – 1%, PLT – $214{,}0x10^{9}$/L, ESR – 46 mm/h.

2. General urinalysis: specific gravity – 1002, protein – 0.38 g /l, WBC – 1-2-3 in f/v., RBC – 15-20 in f/v.

3. Creatinine — 660 mmol /l, urea – 27.0 mmol / l, potassium – 6.5 mmol /l.

4. Ultrasound of the kidneys: the kidneys are sharply enlarged in size up to 14 by 7.5 cm, the parenchyma is edematous, of reduced echogenicity, 25 mm thick, the cup-pelvis complex is compressed by edematous parenchyma.

5. Chest X-ray: there are no focal and infiltrative changes, the pulmonary pattern is enhanced due to the vascular component.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 5

Patient N, 58 years old, a nutritionist, was admitted to the polyclinic for an appointment with a family doctor with complaints of swelling of the legs, fear of death, discomfort in the legs, general weakness, sweating.

It is known from her medical history that she has been suffering from rheumatoid arthritis for 25 years. Prednisone, gold preparations, NSAIDs were treated. A year ago, proteinuria was first detected – 1.3 g / l, consulted a nephrologist, but did not receive treatment.

On objective examination: The general condition is satisfactory. Consciousness is clear. The position is active. Satisfactory nutrition. The skin is of normal color, clean, normal humidity. Subcutaneous fat has a homogeneous consistency. Swelling of the shins, feet. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inside of the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness is are within

normal limits. During auscultation, the heart tones are muted, rhythm is regular, no murmurs. Blood pressure 100/70 mm Hg, heart rate 92 per minute.

Respiratory system. On examination, the chest is of the correct shape, symmetrical. With comparative percussion over the entire surface of the lungs, a clear pulmonary sound is determined, the boundaries of the lungs are within normal limits. During auscultation over the lungs, vesicular respiration is determined on both sides, no wheezings. BR 15 per minute

On palpation, the abdomen is soft and painless during palpation. The liver protrudes 3 cm from under the edge of the costal arch, dense. Liquid stool, 2 times a day, diuresis: marks the urge to urinate at night 1-2 times.

Complete Blood Count: RBC – $4,6x10^{12}$/L, Hb –130 g/L, MCH – 27 pg/cell, WBC – $6,0x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $483,0x10^{9}$/L, ESR – 64 mm/h.

Total protein - 42 g/l, albumins - 19 g/l, creatinine - 120 mmol/l, daily proteinuria - 8.2 g. Daily diuresis: 800ml.

Nephrobiopsy: the preparation contains a fragment of the renal parenchyma, cortical and cerebral layer with up to 6 glomeruli, 2 of which are sclerosed, the remaining glomeruli of normal size, with the deposition of homogeneous amorphous masses in capillary loops (+ congo-mouth coloration). Conclusion: amyloidosis of the kidneys.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 6

Patient N, 38 years old, hairdresser, was admitted to the polyclinic for an appointment with a family doctor with complaints of pain in the lumbar region on the left, an increase in body temperature to 39°C, chills.

It is known from the anamnesis that there are no chronic diseases. Heredity is burdened on the mother's side: stomach ulcer. She was ill with tuberculosis at the age of 7, was registered for 4 years, then the phthisiologist was removed from the register. SARS gets sick 1-2 times a year.

On objective examination: the right physique. Pulse is 100 beats per 1 minute, rhythmic, satisfactory filling. BH 17 per minute. BMI = 22. Blood pressure is 120/80 mm Hg. Vesicular respiration in the lungs, the abdomen is soft. The heart tones are clear, rhythmic, a soft systolic noise is heard at the top. Pasternatsky's symptom is positive on the left. The kidneys are not palpable. Palpation of the left kidney (its area) is sharply painful. There is no dysuria. Macrohematuria, leukocyturia.

In the overview image of the urinary system on the left, at the level of the transverse process of the III lumbar vertebra, there is a shadow suspicious of a concretion measuring 4 x 4 mm.

There are no pathological changes in the cup-pelvic system of the right kidney on excretory urograms. The passage of contrast agent through the ureter is not disturbed. Moderate pyeloectasia on the left. Enlargement of the ureter above the concretion shadow. With polypositional urography, the shadow of the concretion coincides with the shadow of the ureter made with a contrast agent.

According to ultrasound data, the left kidney is enlarged in size, the cavity system is expanded, the parenchyma is diffusely thickened (up to 25 mm), of uniform density.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 7

Patient N, 42 years old, a builder, was admitted to the polyclinic for an appointment with a family doctor with complaints of lower back pain on the right, accompanied by an increase in body temperature to 39-40 ° C, chills.

It is known from the anamnesis that a year ago a stone was found in the upper third of the right ureter measuring 1x1.5 cm. At the same time, an operation was offered, which the patient refused. The above complaints are bothered for 3 days. He denies chronic diseases. Heredity is burdened: the father has a single kidney from birth. There were no contacts with tuberculosis patients. ARVI gets sick 2-3 times a year. He does not take medications.

On objective examination: The general condition is severe, sluggish, adynamic. Consciousness is clear. Satisfactory nutrition. The skin is of normal color, clean, normal humidity. Subcutaneous fat has a homogeneous consistency. BMI = 24. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

The cardiovascular system. The apical beat is located in the V intercostal space 1.5-2 cm inward from the left mid-clavicular line. With percussion, the boundaries of relative cardiac dullness are within normal limits. During auscultation, the heart tones are muted, rhythm is regular, the splitting of 2 tones is heard. Blood pressure 110/80 mm Hg, heart rate 92 per minute.

Respiratory system. On examination, normal shape of the chest, symmetrical. With comparative percussion over the entire surface of the lungs, a clear pulmonary sound is determined, the boundaries of the lungs are within normal limits. During auscultation over the lungs, vesicular respiration is determined on both sides, no wheezings. BR 18 per minute

On palpation, the abdomen is soft, painful in the right hypochondrium. Pasternatsky's symptom is positive on the right.

Complete Blood Count: RBC – $4,6x10^{12}$/L, Hb –136 g/L, MCH – 27 pg/cell, WBC – $13,0x10^{9}$/L, neutrophils bands – 16%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $214,0x10^{9}$/L, ESR – 20 mm/h.

In the analysis of urine, leukocytes cover all fields of vision with a thick layer.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 8

Patient N, 55 years old, assessor, was admitted to the polyclinic for an appointment with a family doctor with complaints of headaches, dry mouth, thirst (drinks up to 3 liters of fluid per day), general weakness, fatigue, nausea, vomiting, frequent urination, sometimes itchy skin, shortness of breath during exercise, heart failure.

From anamnesis: he has been ill for 12 years, when edema of the face, shins and feet, headaches first appeared. In subsequent years, arterial hypertension (BP 160/100-190/110 mmHg) joined. Protein, leukocytes and erythrocytes were periodically detected in the urine. Despite the doctors' recommendations, he did not carry out planned

treatment. He was treated inpatient, received prednisone, ascorutin, diuretics, after discharge, the condition improved, the swelling went down, the protein in the urine decreased to 0.33%. Recently, headaches have become persistent, nausea, vomiting, dry mouth, thirst, itching, decreased appetite, the patient lost weight.

On objective examination: the condition of moderate severity. Somewhat inhibited, apathetic, sleepy. Low nutrition, BMI 19 kg/m2. The skin is dry, pale, traces of scratching. The face is puffy, soft swelling of the legs (when pressed, a fossa remains). Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The muscular system is developed satisfactorily. The joints are not externally changed.

In the lungs, breathing is vesicular, weakened in the lower parts on both sides, there are no wheezing. The heart is expanded to the left by 2 cm. Heart tones are muted, frequent extrasystoles. Heart rate 88 beats/min. BP 210/120 mm Hg. The liver and spleen are not enlarged. The symptom of pounding is positive on both sides. Urination 8-10 times a day, including 1-2 times at night, urine is dark in color.

Complete Blood Count: RBC – $2{,}8x10^{12}$/L, Hb –69 g/L, WBC – $9{,}8x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $126{,}0x10^{9}$/L, ESR – 75 mm/h.

GUT: specific gravity 1003, protein - 0.8 g / l, WBC - 3-8 in n /a, RBC – 35 in f/v, hyaline cylinders – 1-2, granular 1-2.

Daily albuminuria 800 mg / day. Creatinine 370 mmol / L. GFR according to the formula SKD / EPI 15 ml / min.

ECG - hypertrophy of the left ventricle, decrease in voltage, elongation of PQ, smoothness and two-phase T wave, frequent ventricular extrasystoles.

With ultrasound of the kidneys, the right 8.1x3.7 cm, the left 9.4 x 4.1 cm. The contours are uneven, the thickness of the parenchyma is 14-15 mm, the kidney tissue is diffusely hyperechogenic, blood

flow is depleted, cortical-medullary differentiation is impaired. There are single small cysts in both kidneys.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 9

Patient N, 25 years old, a robotics specialist, was admitted to the polyclinic for an appointment with a family doctor with complaints of swelling of the legs, face, lower back pain, bloody urine and a decrease in its daily discharge, weakness, malaise, headaches, some visual impairment.

From anamnesis: ill for 3 weeks. The disease began with sore throat when swallowing and nasal congestion with copious purulent discharge, headaches, temperature up to 39-40 ° C. After 3 days, the temperature dropped, and my health improved. A week ago, swelling of the face and shins appeared, the urine turned red. Again he noticed periodic temperature rises to subfebrile figures. In the past, he have noted repeated sore throats and exacerbations of sinusitis.

On objective examination: the skin is clean, pale. There is swelling of the face, especially in the eyelid area, soft warm swelling of the shins and feet. Hair and nails are not changed. The thyroid gland is not visually determined, with palpation of a soft-elastic consistency, painless. The muscular system is developed satisfactorily. The joints are not externally changed. Palpated slightly enlarged lymph nodes of the pharyngeal ring, painful on palpation. The pharynx is hyperemic, the tonsils are hypertrophied, with a purulent plaque. On the back wall of the pharynx – purulent discharge from the nose. The tones of the heart are pure, sonorous. BR 15 per minute. Heart rate - 80 beats per minute, blood pressure - 170/100 mmHg. The abdomen is soft, sensitive

to palpation in the epigastrium. The liver and spleen are not enlarged. The kidneys are not palpable. The symptom of pounding is positive on both sides. There is no dysuria.

Complete Blood Count: RBC – 4,6x10^{12}/L, Hb –129 g/L, MCH – 27 pg/cell, WBC – 5,3x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 214,0x10^{9}/L, ESR – 27 mm/h.

In the general urine analysis, the specific gravity is 1018-1020, protein is 0.99 g /l; RBC – 40-50 in n/a, WBC – 2-3 in n/a. A smear from the throat gave the growth of beta-hemolytic streptococcus.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 10

Patient N, 28 years old, a neonatologist, was admitted to the polyclinic for an appointment with a family doctor with complaints of malaise and subfebrile body temperature, weight loss, weakness. The disease began with a sore throat when swallowing, the temperature is up to 39-40 ° C. After 3 days, the temperature dropped, and state of health got better. She received treatment with folk remedies. Within two weeks, the symptoms of ARVI disappeared. A week ago, she again noticed periodic temperature rises to subfebrile figures.

It is known from the anamnesis that the patient had contact with a tuberculosis patient three weeks ago.

On objective examination: the skin is pale. BMI = 17. There is swelling of the face, especially in the eyelid area. Palpated slightly enlarged lymph nodes of the pharyngeal ring, painful on palpation. Hair and nails are not changed. The thyroid gland is not visually

determined, with palpation of a soft-elastic consistency, painless. The muscular system is developed satisfactorily. The joints are not externally changed. The pharynx is hyperemic, the tonsils are hypertrophied, without plaque. The tones of the heart are pure, sonorous. Heart rate - 84 beats per minute, blood pressure - 120/80 mmHg. The abdomen is soft, painless. The liver and spleen are not enlarged. The kidneys are not palpable. The symptom of pounding is positive on both sides. There is no dysuria.

Complete Blood Count: RBC – 3,4x10^{12}/L, Hb –105 g/L, MCH – 27 pg/cell, WBC – 12,0x10^{9}/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – 220,0x10^{9}/L, ESR – 25 mm/h.

GUT: specific gravity 1003, protein - 0.4 g / l, leuc. - 11 in f/v, er. 5 in f/v, cylinders hyal 1, reaction pH - 4.4.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Chapter 10. STANDARD OF ANSWERS FOR THE NEPHROLOGY SECTION

Clinical case No. 1

1. What is the preliminary diagnosis?

Preliminary diagnosis: chronic glomerulonephritis, latent, complication: CKD, stage 3, renal arterial hypertension, anemia.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory and instrumental studies. Blood: leukocytosis, increased ESR, hyperfibrinogenemia, hypoproteinemia, dysproteinemia, hypergammaglobulinemia. Increased creatinine levels. Urine: low specific gravity, proteinuria, leukocyturia, hematuria, cylindruria. Rehberg-Tareev test: reduction of glomerular filtration and tubular reabsorption. Nechiporenko's test: hematuria, cylindruria (Casts). Zimnitsky's test: hypostenuria, isostenuria, nocturia. Radioisotope renography is a symmetrical decrease in filtration and excretory functions of the kidneys. Excretory urography is a symmetrical decrease in the filtration function of the kidneys. Kidney biopsy: morphological variants of kidney damage.

3. What is the patient's management?

Treatment is carried out over a long period and can take from several months to several years, and sometimes throughout the patient's life. Treatment tasks: 1) achieve the reverse development of kidney lesions with the restoration of their function; 2) stop the progression of nephritis; 3) slow down the rate of increase in CKD. Mode: avoid hypothermia, excessive physical exertion, psychoemotional stress. It is forbidden to work at night, in hot and cold rooms, business trips, overheating, sunburn are not recommended. Diet: is

one of the most important elements of the complex therapy of CGN. The diet No. 7 according to M.I. Pevsner with variation 7a, 7b is used.

Diet therapy is designed for a long time, therefore, when prescribing it, it is necessary to take into account the clinical form of the disease, its course (remission or exacerbation), stage (compensated or with CKD phenomena). In patients with latent and hematuric forms (with isolated urinary syndrome), dietary restrictions should be minimal. Nutrition should correspond to the physiological needs of the body with an average protein content of 1 g per 1 kg of body weight in the daily diet with a slight restriction of table salt (up to 6-8 g per day) and without significant fluid restriction. The diet should include vegetable products rich in vitamins C, P (lemon, rosehip infusion, black currant, etc.), strengthening the vascular wall and reducing its permeability. In patients with hypertensive CGN with the same protein content, a stricter restriction of table salt and liquid is required in the daily diet. With all clinical forms of CGN, especially with hypertension, a dairy-vegetable diet is preferred. In the case of persistent and persistent hypertension, it is recommended to periodically spend fasting days (fruit-rice, potato, vegetable, etc.). Such a diet, poor in sodium chloride and rich in potassium, helps to reduce blood pressure and increases the effectiveness of antihypertensive agents. With nephrotic and mixed forms of CGN, a very strict and long-term restriction of table salt (3-4 g per day, taking into account its content in food) and liquid is required. It should be borne in mind that bread is rich in salt (in white bread – 0.6%, in black – 0.75% sodium chloride) and butter. For such patients, a special "kidney bread" is baked, that is, without adding salt, and the oil is repeatedly washed or soaked in water. With persistent and persistent edema, it is recommended to carry out so-called "zigzags", that is, periodically, then increase (with a decrease in edema), then again strictly limit the amount of salt in the diet.

Along with the restriction of sodium chloride, it is necessary to observe the restriction of liquid. The amount of it during the day, taking into account liquid dishes, should not exceed 600-800 ml and depends on the volume of daily diuresis and the dynamics of edematous syndrome. Convergence or unloading apple or apple-potato days

(1-2 times a week) contribute to the reduction of edema. Watermelon, pumpkin, melon, grapes, bananas have a diuretic effect.

Pathogenetic treatment of glomerulonephritis. Immunosuppressive therapy is used to suppress the activity: GC, non-selective and selective cytostatics and cyclosporine-A (CSA). When prescribing immunosuppressive therapy, the following provisions should be followed:

1. Immunosuppressive therapy is always indicated for high activity of GN.

2. First-time nephrotic syndrome, especially without hematuria and hypertension, is always an indication for the treatment of GC.

3. With rapidly progressing forms of nephritis (with a rapid increase in creatinine levels), it is mandatory to prescribe immunosuppressants - large doses of GC and cytostatics inside and / or in the form of "pulses".

Glucocorticoids (GC), which have immunosuppressive and anti-inflammatory effects, have remained the main means of pathogenetic therapy of nephritis for several decades. More often used orally – prednisone in high (1-2 mg / kg per day) or moderately high (0.6–0.8 mg / kg per day) doses, daily in 2-3 doses or once in the morning, for a long time (1-4 months), followed by a slow decrease. An alternating mode is also possible, when the patient takes a double daily dose every other day in the morning.

With high activity of renal inflammation to quickly achieve very high concentrations of GC in blood plasma, "pulse therapy" is indicated – intravenous administration of ultra-high doses (0.8–1.2 g) of methylprednisolone or prednisolone for three days in / in drip.

Maintenance therapy of GC is carried out for two months at a dose of 10-20 mg / day. The timing of maintenance therapy is determined empirically, usually two months. With systemic diseases, longer therapy is required, while taking the drug every other day causes fewer side effects than daily therapy. In such situations, the dose of GC for alternating therapy is 2-3 times higher than with daily intake. In this regard, the best tactic of maintenance therapy of GC is considered to

reduce the daily dose to the lowest level, and then switch to an alternating mode using a two-time dose of daily intake.

Cytostatic drugs in the treatment of nephritis are used somewhat less frequently because of the greater severity of side effects. As a rule, alkylating compounds are used – cyclophosphamide (at a dose of 1.5-2 mg / kg per day) and chlorbutin (at a dose of 0.1-0.2 mg / kg per day); antimetabolite azathioprine is less effective, although less toxic. The decrease in the number of white blood cells occurs within a few days or weeks. During this period, it is important to check the number of leukocytes in the peripheral blood every 2-3 days so that when they decrease to the lower permissible level, the dose of the drug can be reduced or canceled. The most serious side effects of alkylating cytostatics are bone marrow suppression, the development of infections and gonad insufficiency. Other complications: hepatitis, alopecia, hemorrhagic cystitis, gastrointestinal disorders and an increased risk of developing tumors. The initial dose of CsA for adults in a nephrological clinic is 3-5 mg / kg, for children - 6 mg / kg per day. In the future, the dose depends on the tolerability, the presence of side effects and the concentration in the blood serum, which should be regularly check. CsA is indicated primarily in patients with minimal changes and gastroscopy with frequent recurrence of nephrotic syndrome or steroid-resistant NS, with the development of complications of steroid and cytostatic therapy. The most serious complications of CsA treatment are hypertension and nephrotoxicity.

Mycophenolate mofetil, a derivative of mycophenolic acid, is an inosine monophosphate dehydrogenase inhibitor that depletes the reserves of guanidine nucleotides in cells, selectively inhibits the proliferation of T and B lymphocytes, the production of AT and the formation of cytotoxic T lymphocytes.

Not only immunosuppressive therapy, but also the so-called non-immune nephroprotective therapy, the possibilities of which have significantly expanded over the past decade, can stabilize the course of GN, slow down its progression, and sometimes even lead to its reverse development. At the present stage, we can talk about four methods of nephroprotective therapy, the effect of which on the progression of

GN has been proven. These are: ACE inhibitors and angiotensin II receptor blockers; heparin; dipyridamole; lipid-lowering drugs, primarily statins.

Anticoagulants reduce intravascular coagulation, improve microcirculation, inhibit the synthesis of antibodies, improve diuresis, reduce blood pressure, slow down the migration of leukocytes, have an anti-inflammatory effect. They are indicated for nephrotic syndrome, edematous syndrome, increasing CKD, moderate hypertension. Heparin 5000-10000 units 4 times a day subcutaneously into the anterior abdominal wall. The course is 6-8 weeks with gradual cancellation. Weekly monitoring of APTT is required.

4. Medical and labor expertise. Dispensary observation. Indications for hemodialysis: a decrease in glomerular filtration of 15 - 10 ml / min, it is important not to miss the deadline for entering the patient into hemodialysis with CKD. Examination of working capacity. The duration of temporary disability depends on the clinical form of the disease and the state of kidney function, which occurs with an exacerbation of the disease: exacerbation of the latent form - the duration of temporary disability – 14-20 days; mild urinary syndrome - 20-25 days; hypertensive form of glomerulonephritis - 25-30 days; nephrotic form - 40-45 days. With an unfavorable course of the disease, signs of CKD, patients are referred to the MSEC to establish a disability group.

Patients with CGN in remission are able to work, with rare relapses, having isolated changes in urine, NS without exacerbation, medically controlled hypertension of I-II degree, in the absence of significant complications of active therapy (hormones, cytostatics, plasmapheresis) and leading GN syndromes (acute nephritic syndrome, NS, AH), working in non-contraindicated types and working conditions. The ability to work persists at the pre-azotemic and initial stages of CKD.

Contraindicated types and working conditions: 1) absolute: hard physical labor; work at a rigidly set pace (on the conveyor), in a static pose, unfavorable production conditions (low or high temperatures, high humidity, dust, smoke, drafts, etc.), in contact with nephrotic

poisons; work related to the impact on the body of vibration, high frequency currents; irregular working day, night shifts; 2) relative: moderate physical labor, work associated with prolonged standing, forced body position, significant neuropsychiatric stress.

Indications for referral in the medical and social expertise. AGN with chronic disease, CGN with continuous recurrence, current NS, progressive or high grade III hypertension, extrarenal complications of the disease or treatment, newly diagnosed or progressive terminal CKD.

The required minimum of examination: urine tests (repeated); clinical blood analysis, platelets; daily loss of protein in urine; Rehberg test; creatinine, urea, cholesterol, electrolytes, total protein and fractions; if CKD ABC indicators, bone radiography, alkaline phosphatase; ultrasound, scintigraphy, radiography and kidney biopsy according to indications.

Criteria for disability in adult glomerulonephritis

Disability is not established if the patient has:

Stage 1 CKD, GFR more than 90 ml/min/1.73 m2;

Stage 2 CKD, GFR within 89-60 ml/min/1.73 m2;

Stage 3A CKD, GFR 59-45 ml/min/1.73 m2.

Group III disability is established if the patient has: Stage 3 CKD, GFR 44-30 ml/min/1.73 m2. Nephrotic / nephritic syndromes with ineffective treatment with moderate impairment of body functions.

Disability of group II is established if the patient has: Stage 4 CKD, GFR 29-15 ml/min/ 1.73 m2, preparation for dialysis. Stage 5 CKD (GFR below 15 ml/min/1.73 m2) in the absence of dialysis complications.

Disability of group I is established if the patient has: Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. Patients are observed for life: with hypertensive form - twice a year, with nephrotic form - four times a year. Once a year – examination of specialists: gynecologist, dentist, urologist, otorhinolaryngologists, ophthalmologist. Main activities: rehabilitation of foci of infection, physiotherapy, spa treatment, diet.

Patients are under the supervision of a nephrologist, in his absence - a district therapist or a general practitioner.

Clinical case No. 2

1. What is the preliminary diagnosis?

Preliminary diagnosis: chronic mesangial proliferative glomerulonephritis, hematuric form.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory and instrumental studies. Blood: leukocytosis, increased ESR, hyperfibrinogenemia, hypoproteinemia, dysproteinemia, hypergammaglobulinemia. Increased creatinine levels. Urine: low specific gravity, proteinuria, leukocyturia, hematuria, cylindruria. Rehberg-Tareev test: reduction of glomerular filtration and tubular reabsorption. Nechiporenko's test: hematuria, cylindruria. Zimnitsky's test: hypostenuria, isostenuria, nocturia. Radioisotope renography is a symmetrical decrease in filtration and excretory functions of the kidneys. Excretory urography is a symmetrical decrease in the filtration function of the kidneys. Kidney biopsy: morphological variants of kidney damage.

3. What is the patient's management?

Treatment is carried out over a long period and can take from several months to several years, and sometimes throughout the patient's life. Treatment tasks: 1) achieve the reverse development of kidney lesions with the restoration of their function; 2) stop the progression of nephritis; 3) slow down the rate of increase in CKD. Mode: avoid hypothermia, excessive physical exertion, psychoemotional stress. It is forbidden to work at night, in hot and cold rooms, business trips, overheating, sunburn are not recommended. Diet: is one of the most important elements of the complex therapy of CGN. The diet No. 7 according to M.I. Pevsner is used with variation 7a, 7b.

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Pathogenetic treatment of glomerulonephritis. Immunosuppressive therapy is used to suppress the activity: GC, non-selective and selective cytostatics and cyclosporine-A (CSA). When prescribing immunosuppressive therapy , the following provisions should be followed:

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Mycophenolate mofetil, a derivative of mycophenolic acid, is an inosine monophosphate dehydrogenase inhibitor that depletes the reserves of guanidine nucleotides in cells, selectively inhibits the proliferation of T and B lymphocytes, the production of AT and the formation of cytotoxic T lymphocytes.

Not only immunosuppressive therapy, but also the so-called non-immune nephroprotective therapy, the possibilities of which have significantly expanded over the past decade, can stabilize the course of GN, slow down its progression, and sometimes even lead to its reverse development. At the present stage, we can talk about four methods of nephroprotective therapy, the effect of which on the progression of GN has been proven. These are: ACE inhibitors and angiotensin II receptor blockers; heparin; dipyridamole; lipid-lowering drugs, primarily statins.

Anticoagulants reduce intravascular coagulation, including intraclubular coagulation, improve microcirculation, inhibit the synthesis of antibodies, improve diuresis, reduce blood pressure, slow down the migration of leukocytes, have an anti-inflammatory effect. They

are indicated for nephrotic syndrome, edematous syndrome, increasing CKD, moderate hypertension. Heparin 5000-10000 units 4 times a day subcutaneously into the anterior abdominal wall. The course is 6-8 weeks with gradual cancellation. Weekly monitoring of APTT is required.

4. Medical and labor expertise. Dispensary observation. Indications for hemodialysis: a decrease in glomerular filtration of 15 - 10 ml / min, it is important not to miss the deadline for entering the patient into hemodialysis with CKD. Examination of working capacity. The duration of temporary disability depends on the clinical form of the disease and the state of kidney function, which occurs with an exacerbation of the disease: exacerbation of the latent form - the duration of temporary disability – 14-20 days; mild urinary syndrome - 20-25 days; hypertensive form of glomerulonephritis - 25-30 days; nephrotic form - 40-45 days. With an unfavorable course of the disease, signs of CKD, patients are referred to the MSEC to establish a disability group.

Patients with CGN in remission are able to work, with rare relapses, having isolated changes in urine, NS without exacerbation, medically controlled hypertension of I-II degree, in the absence of significant complications of active therapy (hormones, cytostatics, plasmapheresis) and leading GN syndromes (acute nephritic syndrome, NS, AH), working in non-contraindicated types and working conditions. The ability to work persists at the pre-azotemic and initial stages of CKD.

Contraindicated types and working conditions: 1) absolute: hard physical labor; work at a rigidly set pace (on the conveyor), in a static pose, unfavorable production conditions (low or high temperatures, high humidity, dust, smoke, drafts, etc.), in contact with nephrotic poisons; work related to the impact on the body of vibration, high frequency currents; irregular working day, night shifts; 2) relative: moderate physical labor, work associated with prolonged standing, forced body position, significant neuropsychiatric stress.

Indications for referral to the medical and social expertise. AGN with chronic disease, CGN with continuous recurrence, current NS,

progressive or high grade III hypertension, extrarenal complications of the disease or treatment, newly diagnosed or progressive terminal CKD.

The required minimum of examination: urine tests (repeated); clinical blood analysis, platelets; daily loss of protein in urine; Rehberg test; creatinine, urea, cholesterol, electrolytes, total protein and fractions; if CKD ABC indicators, bone radiography, alkaline phosphatase; ultrasound, scintigraphy, radiography and kidney biopsy according to indications.

Criteria for disability in adult glomerulonephritis

Disability is not established if the patient has:

Stage 1 CKD, GFR more than 90 ml/min/1.73 m2;

Stage 2 CKD, GFR within 89-60 ml/min/1.73 m2;

Stage 3A CKD, GFR 59-45 ml/min/1.73 m2.

Group III disability is established if the patient has: Stage 3 CKD, GFR 44-30 ml/min/1.73 m2. Nephrotic / nephritic syndromes with ineffective treatment with moderate impairment of body functions.

Disability of group II is established if the patient has: Stage 4 CKD, GFR 29-15 ml/min/ 1.73 m2, preparation for dialysis. Stage 5 CKD (GFR below 15 ml/min/1.73 m2) in the absence of dialysis complications.

Disability of group I is established if the patient has: Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. Patients are observed for life: with hypertensive form - twice a year, with nephrotic form - four times a year. Once a year – examination of specialists: gynecologist, dentist, urologist, otorhinolaryngologist, ophthalmologist. Main activities: rehabilitation of foci of infection, physiotherapy, spa treatment, diet. Patients are under the supervision of a nephrologist, in his absence - a district therapist or a general practitioner.

Clinical case No. 3

1. What is the preliminary diagnosis?

Preliminary diagnosis: acute nephritic syndrome.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory and instrumental studies. Blood: leukocytosis, increased ESR, hyperfibrinogenemia, hypoproteinemia, dysproteinemia, hypergammaglobulinemia. Increased creatinine levels. Urine: low specific gravity, proteinuria, leukocyturia, hematuria, cylindruria. Rehberg-Tareev test: reduction of glomerular filtration and tubular reabsorption. Nechiporenko's test: hematuria, cylindruria. Zimnitsky's test: hypostenuria, isostenuria, nocturia. Radioisotope renography is a symmetrical decrease in filtration and excretory functions of the kidneys. Excretory urography is a symmetrical decrease in the filtration function of the kidneys. Kidney biopsy: morphological variants of kidney damage.

3. What is the patient's management?

The patient is hospitalized in a specialized hospital, bed rest is indicated. Patients are prescribed diet therapy, which consists in the complete exclusion of salt from the diet and the restriction of protein products, table No. 7. Treatment is carried out individually, depending on the severity of the disease, the presence of concomitant diseases.

Drug therapy:

With the infectious etiology of the syndrome, antimicrobial agents are prescribed - "Cephalexin", "Amoxicillin", "Azithromycin".

Immunosuppressive therapy is carried out with the help of cytostatics and glucocorticoids – "Prednisolone", "Methylprednisolone".

Diuretics reduce the volume of circulating blood – "Diacarb", "Veroshpiron".

Antiplatelet agents and anticoagulants - "Curantil", "Heparin".

Calcium channel blockers and ACE inhibitors – "Enalapril", "Bisoprolol" - are used for the treatment of arterial hypertension.

Pre- and probiotics allow to restore the intestinal microflora – “Bifiform”, “Lactofiltrum”, “Enterol”.

Immunostimulators increase the body’s resistance to infection – “Imunorix”, “Ismigen”.

Multivitamins - “Vitrum”, “Centrum”.

Phytopreparations that support kidney function – “Cystone”, “Kanefron”.

NSAIDs according to indications - “Ibuprofen”, “Nurofen”, “Diclofenac”.

Antihistamines - “Suprastin”, “Cetrin”, “Diazolin”.

Restoration of hemodynamics and improvement of microcirculation - “Actovegin”, “Kavinton”.

Dialysis therapy and plasma exchange are indicated for the rapid development of renal insufficiency.

4. Medical and labor expertise. Dispensary observation.

Contraindicated types and working conditions: 1) absolute: hard physical labor; work at a rigidly set pace (on the conveyor), in a static pose, unfavorable production conditions (low or high temperatures, high humidity, dust, smoke, drafts, etc.), in contact with nephrotic poisons; work related to the impact on the body of vibration, high frequency currents; irregular working day, night shifts; 2) relative: moderate physical labor, work associated with prolonged standing, forced body position, significant neuropsychiatric stress.

Indications for referral to the medical and social expertise. AGN with chronic disease, CGN with continuous recurrence, current NS, progressive or high grade III hypertension, extrarenal complications of the disease or treatment, newly diagnosed or progressive terminal CKD.

The required minimum of examination: urine tests (repeated); clinical blood analysis, trombocytes; daily loss of protein in urine; Rehberg test; creatinine, urea, cholesterol, electrolytes, total protein and fractions; if CKD ABC indicators, bone radiography, alkaline phosphatase; ultrasound, scintigraphy, radiography and kidney biopsy according to indications.

Criteria for disability in adult glomerulonephritis

Disability is not established if the patient has:

Stage 1 CKD, GFR more than 90 ml/min/1.73 m2;

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Stage 3A CKD, GFR 59-45 ml/min/1.73 m2.

Group III disability is established if the patient has: Stage 3 CKD, GFR 44-30 ml/min/1.73 m2. Nephrotic / nephritic syndromes with ineffective treatment with moderate impairment of body functions.

Disability of group II is established if the patient has: Stage 4 CKD, GFR 29-15 ml/min/ 1.73 m2, preparation for dialysis. Stage 5 CKD (GFR below 15 ml/min/1.73 m2) in the absence of dialysis complications.

Disability of group I is established if the patient has: Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. Patients are observed for life: with hypertensive form - twice a year, with nephrotic form - four times a year. Once a year – examination of specialists: gynecologist, dentist, urologist, otorhinolaryngologist, ophthalmologist. Main activities: rehabilitation of foci of infection, physiotherapy, spa treatment, diet. Patients are under the supervision of a nephrologist, in his absence - a district therapist or a general practitioner.

Clinical case No. 4

1. What is the preliminary diagnosis?

Preliminary diagnosis: chemical poisoning. Acute renal failure, oliguric phase.

2. What additional tests would you recommend to the patient, and what are the expected results?

1. GBT.
2. GUT.
3. Blood biochemistry (expanded).
4. Coagulogram.

5. acid-base balance.
6. Bacteriological culture urine 3 times.
7. HBsAg, RW, HIV.
8. IFA for markers of viral hepatitis.
9. Blood testing for all types of zoonoses.
10. Coprogram.
11. Bacteriological culture excrement 3 times.
12. CT of the kidneys.
13. Urine analysis according to Zimnitsky.
14. Ultrasound of the abdominal cavity and kidneys.
15. ECG.
16. Chest X-ray.
17. Blood type, Rh affiliation.

3. What is the patient's management?

The goals of treatment are to establish the possible cause of AKI; withdrawal from an acute condition (elimination of shock, stabilization of hemodynamics, restoration of heart rhythm, etc.); restoration of diuresis; elimination of azotemia, correction of acid-base state; relief of edema, convulsions; normalization of blood pressure; prevention of the formation of CKD, transformation of AKI into CKD. Treatment tactics are divided into conservative (etiological, pathogenetic, symptomatic), surgical (urological, vascular) and active - renal replacement therapy - dialysis methods (RRT).

Prevention of prerenal AKI includes restoration of CBV, adequate analgesia (in shock, trauma), correction of acid-base state and water-electrolyte balance, increase in myocardial contractility.

Therapeutic measures for prerenal AKI depend on changes in hemodynamic parameters. In case of low CVP and hypotension, it is necessary to correct hypovolemia by infusion therapy with crystalloid and colloidal solutions, drugs blood, and against the background of treatment, the restoration of renal function (a decrease in the level of urea and plasma creatinine, a sufficient rate of diuresis) occurs 24-36 hours after correction of hemodynamic parameters. In hypotension with increased CVP, therapy should be aimed at the treatment of heart

failure: inotropic support (dopamine 5-15 mcg / kg/min, dobutrex 3-15 mcg / kg/min), reduction of afterload (nitroglycerin 5-10 mcg / kg/min).

The lack of effect from the therapy for 24-36 hours indicates the development of a renal form of acute renal failure. At an early stage of the development of renal acute renal failure in the absence of anuria and hypercatabolism, conservative therapy is carried out, which it is advisable to start with a mannitol test. 100 ml of a 25% mannitol solution is administered intravenously by drip. The positive result of the test is considered if after 1-12.5 hours the diuresis is about 50 ml / h. In the absence of an effect, the mannitol solution is re-administered and the rate of diuresis is monitored for two hours. If diuresis does not increase after the second dose of mannitol (the test is negative), then this is the basis for performing hemodialysis.

Another method of conservative therapy is treatment with large doses of furosemide, which is especially effective in toxic acute kidney injury. Against the background of dopamine (1-3 mcg / kg / min) and antispasmodics (Drotaverine, Euphyllinum), 600-1000 mg of furosemide is injected intravenously for 15-20 minutes in 100 ml of 5% glucose solution. The daily dose of furosemide is 2500-3000 mg. The volume of infusion therapy for oliguria is sharply limited and is calculated by the formula

Volume of infusion therapy = 500 + diuresis for the previous day + the volume of perspiration + visible losses.

The volume of perspiration is 400-500 ml per day. Visible losses – the volume of losses on drains, with vomiting and stool. When carrying out infusion therapy, it is necessary to take into account the amount of CVP and the presence of heart failure. With anuria , an infusion of hypertensive (20 %, 20 %, 40 %) glucose solutions with insulin without electrolytes (potassium, chlorine). Glucose solutions provide the body with energy and prevent the catabolism of proteins and fats. The use of anabolic hormones (retabolil) and vitamins (up to 2-26.5 g of ascorbic acid) helps to reduce the catabolism of proteins and fats. Gastric and intestinal lavage (gastrointestinal-duodenal-intestinal lavage).

Gastric and intestinal lavage can significantly reduce the urea content, with little effect on creatinine levels.

Contraindications to gastric and intestinal lavage are gastrointestinal bleeding and acute intestinal obstruction. With acute renal failure, which does not respond to conservative treatment, the use of efferent therapy methods is shown.

Hemodialysis. If it is necessary to carry out RRT for AKI, the patient is dialyzed from 2 to 6 weeks, until the restoration of kidney function. When treating patients with AKI who require renal replacement therapy, the following questions should be answered: 1. When is it better to start the treatment of RRT? 2. What type of RRT should I use? 3. Which access is better? 4. What level of clearance of soluble substances should be observed?

The beginning of the RRT. Absolute indications for conducting RRT sessions with AKI are: 1. Increasing levels of azotemia and impaired diuresis according to the recommendations of RIFLE, AKIN, KDIGO. 2. Clinical manifestations of uremic intoxication: asterixis, pericardial effusion or encephalopathy. 3. Uncorrectable metabolic acidosis (pH < 7.1; base deficiency -20 or more mmol/l, NSOZ < 10 mmol/l). 4. Hyperkalemia > 6.5 mmol/L and/or pronounced ECG changes (bradyarrhythmia, rhythm dissociation, severe electrical conduction retardation). 5. Hyperhydration (anasarca), resistant to drug therapy (diuretics).

Relative indications for RRT sessions include a sharp and progressive increase in the level of urea nitrogen and blood creatinine without obvious signs of convalescence, when there is a real threat of the development of clinical manifestations of uremic intoxication.

Indications for “renal support” by RRT methods are: providing adequate nutrition, removing fluid in congestive heart failure, and maintaining an adequate hydro balance in a patient with multiple organ failure.

According to the duration of therapy, there are the following types of RRT: intermittent (intermittent) RRT techniques lasting no more than 8 hours with a break longer than the duration of the next session

(on average 4 hours); extended RRT methods (RRT) designed to replace kidney function for a long time (24 hours or more).

PRRT are conditionally divided into: semi-produced 8-12 hours; extended 12-24 hours; permanent for more than a day.

Criteria for the selection of PRRT

1. Renal: AKI in patients with severe cardiorespiratory insufficiency (AMI, high doses of inotropic support, recurrent interstitial pulmonary edema, acute pulmonary injury); AKI against the background of high hyper catabolism (sepsis, pancreatitis, mesenteric thrombosis, etc.)

2. Extra-renal indications for PRRT: Volume overload, provision of infusion therapy; Septic shock; ARDS or risk of ARDS; Severe pancreatitis; Massive rhabdomyolysis, burn disease; Hyperosmolar comas, preeclampsia of pregnant women.

RRT methods. 1. Hemodialysis is intermittent and prolonged. 2. Slow low-flow hemodialysis (SLFH) (slow low effective dialysis – SLED) in the treatment of AKI - the ability to control the hydro balance of the patient without fluctuations in hemodynamics in a shorter period of time (6-8 hours - 16–24 hours). 3. Prolonged veno-venous hemofiltration (PVVHF). 4. Prolonged veno-venous hemodiafiltration (PVVHDF).

Surgical intervention: 1) installation of vascular access; 2) carrying out extracorporeal methods of treatment; 3) elimination of urinary tract obstruction.

4. Medical and labor expertise. Dispensary observation. The patient's disability is established after clarifying the true cause, which led to the development of AKI. Taking into account the possible development of different outcomes of AKI, the definition of temporary or permanent disability also depends.

Dispensary observation. Patients with AKI should be monitored for 3 months to assess the degree of recovery of kidney function, a repeat episode of AKI or a worsening of the course of CKD that occurred before. If a patient has CKD, then his treatment should be carried out in accordance with the Practical Recommendations of

KDOQI on the management of CKD. If a patient does not have CKD, it should be borne in mind that such a patient has an increased risk of developing CKD, and it should be conducted in accordance with the Practical Recommendations of KDOQI. Patients at risk of developing AKI should be monitored with careful monitoring of creatinine and urine volume. Patients are recommended to be divided into groups according to the degree of risk of AKI. Their management depends on predisposing factors. First of all, patients should be examined to identify reversible causes of AKI, which will immediately eliminate these factors (for example, postrenal).

At the polyclinic stage after discharge from the hospital: compliance with the regime (elimination of hypothermia, stress, physical overload), diet; completion of treatment (rehabilitation of foci of infection, antihypertensive therapy) dispensary observation for 5 years (in the first year - measurement of blood pressure quarterly, blood, urine, determination of serum creatinine and calculation of GFR by creatinine - Cockcroft -Gault formula). If extrarenal signs persist for more than 1 month (arterial hypertension, edema), severe urinary syndrome or their aggravation, a kidney biopsy is necessary, since unfavorable morphological variants of GN are likely to require immunosuppressive therapy. With persistent anuria, edema, moderate azotemia, transfer to a regional or city-level hospital, with the presence of an artificial kidney device in the clinic (not only simple dialysis machines, but also devices for extended replacement therapy with the function of hemofiltration, hemodiafiltration). Monitoring and RRT regimens in patients with AKI should be carried out separately from patients with CRF (CKD, stage 5) who are on programmed dialysis. It is also necessary to monitor daily hydro balance, uremia indicators, electrolytes, RRT, as well as the choice of the RRT method - to be carried out individually, according to the patient's condition, underlying and concomitant pathology. Outpatient observation of a nephrologist at the place of residence, monthly examination of kidney function indicators. Mandatory permanent card with a note about AKI, duration, number and type of RRT procedures, GFR level, X-ray contrast studies.

Clinical case No. 5

1. What is the preliminary diagnosis?

Preliminary diagnosis: secondary amyloidosis, nephrotic stage, nephrotic syndrome on the background of rheumatoid arthritis.

2. What additional tests would you recommend to the patient, and what are the expected results?

Immunological examination (immunoglobulins, antinuclear antibodies, RF, CIC, ASL-O, LE-cells); blood tests for markers of viral hepatitis; determination of the level of glycemia, glucose tolerance test, glycosylated hemoglobin; lipid profile, calcium and phosphorus in blood serum; coagulogram; repeated tests for helminthiasis and protozoa; ultrasound of the abdominal cavity and kidneys, if necessary – others imaging methods; according to indications – excretory urography, cystography; kidney biopsy with an unclear diagnosis; consultations with an ophthalmologist, an otolaryngologist, a hematologist and other specialists.

3. What is the patient's management?

Patients with nephrotic syndrome should seek help from a nephrologist. However, depending on the cause of nephrotic syndrome the patient may also need specialized consultation. For example, a patient with lupus nephritis may be prescribed a rheumatologist's consultation, while diabetic nephropathy will require an endocrinologist's consultation. Treatment of nephrotic syndrome depends on the cause of the disease. Therefore, in addition to the main groups of drugs prescribed for this syndrome, the patient may also be prescribed etiological treatment (treatment aimed at eliminating the cause of the disease). With nephrotic syndrome , the following may be prescribed to the patient:

- glucocorticosteroids;
- cytostatics;
- immunosuppressants;
- diuretics (diuretics);

- infusion therapy· * antibiotics· * diet.

Glucocorticosteroids

Hormones of a steroid nature produced by the adrenal cortex. Glucocorticosteroids have the following effect on the body:

- anti-inflammatory (reduce the inflammatory process);
- decongestant (in the presence of inflammation, the penetration of fluid and protein into the focus is reduced);
- immunosuppressive (this effect is manifested due to the effect of the drug on the functions of leukocytes and macrophages);
- anti-allergic (reduce allergic reactions by suppressing the production of allergy mediators);
- anti-shock (in shock conditions, blood pressure increases). With nephrotic syndrome , the following drugs may be prescribed to the patient:
- prednisolone;
- triamcinolone;
- prednisone.

In nephrotic syndrome, glucocorticosteroids have an anti-inflammatory effect, reduce increased capillary patency and suppress the activity of polymorphonuclear leukocytes (neutrophils). Also, this group of drugs is used in the treatment of autoimmune disorders. The duration of treatment with these drugs is prescribed individually, depending on the available indications. On average, the course of therapy lasts from six to twenty weeks. It should be noted that long-term use of glucocorticosteroids requires the patient to regularly monitor and monitor tests (every three months) in the clinic. This is necessary in order to detect the negative effects of the drug taken in a timely manner. Also, in order to reduce bone loss, the patient may be prescribed calcium and vitamin D. When taking glucocorticosteroids, the patient may experience the following side effects· * sleep disturbance;

- increased appetite;
- weight gain· * psychosis;
- increase in blood pressure figures;
- muscular dystrophy· * stretch marks on the skin and others.

Cytostatics

With nephrotic syndrome, cytostatics can be prescribed to the patient independently or in combination with glucocorticosteroids (they inhibit cell division). Cytostatics can be prescribed in the following cases:

- if the patient has resistance (immunity) to hormone therapy;
- children together with glucocorticosteroid drugs;
- if hormonal treatment has not brought the proper result;
- if the patient has contraindications to taking glucocorticosteroids.

The following medications may be prescribed to a patient with nephrotic syndrome:

- cyclophosphamide (two to three milligrams per kilogram of body weight per day, orally, for eight to twelve weeks);
- chlorambucil (0.15 - 0.2 milligrams per kilogram of body weight per day, orally, for eight to ten weeks).

Immunosuppressants

This group of drugs is used to artificially suppress immunity in autoimmune diseases (for example, systemic lupus erythematosus, autoimmune glomerulonephritis) or in autoimmune diseases. In these diseases, the production of specific antigens is observed, in response to this, lymphocytes (immune cells) begin to produce antibodies, which subsequently leads to the development of immunopathological processes. The action of immunosuppressants is aimed at inhibiting the process of antibody production. The following medications may be prescribed for nephrotic syndrome:

- azathioprine (take orally one and a half milligrams per kilogram of body weight per day);
- cyclosporine (take orally 2.5 - 5 mg per kilogram of body weight per day).

Drugs such as tacrolimus and mycophenolate may also be prescribed. The dose and duration of treatment with these drugs are prescribed individually, depending on the indications, the severity of the course of the disease, as well as the dose of medications taken in parallel. Diuretics

These medications are used for the symptomatic treatment of edema (reduce edema). They increase urine production by reducing the

reabsorption of water and salts in the renal tubules, as well as blocking sodium reabsorption. The dosage and duration of treatment with diuretic drugs is determined depending on the severity of edema and proteinuria in the patient.

Name of the drug	Method of application
Furosemide	Adults should take 20 – 40 mg orally before meals. Children need to take one gram per kilogram of body weight orally.
Spironolactone	Adults are prescribed oral intake of 25-100 mg per day. For children, the dose is determined at the rate of two grams per kilogram of body weight.
Indapamide	The drug is administered orally once in an amount of 2.5 mg.

Infusion therapy

This type of treatment is based on the introduction of special solutions into the bloodstream in a certain volume and concentration. Intravenous infusion of solutions has the following therapeutic effects on the body:

- normalization of circulating blood volume;
- rehydration of the body during dehydration;
- detoxification of the body by increasing the secreted fluid (diuresis);
- normalization of metabolic processes.

With nephrotic syndrome, the administration of the following solutions may be prescribed:

- albumin;
- freshly frozen plasma;
- rheopolyglucinum.

Antibiotics

Name of the solution	Pharmacological group	Method of application
Ampicillin	Penicillin	Adults are prescribed oral intake of 500 mg four to six times a day. For children after a month, the drug is indicated in the amount of one hundred milligrams per kilogram of body weight.
Cefazolin	Cephalosporins	The drug is administered intravenously or intramuscularly. Adults are prescribed the introduction of one to four grams two to three times a day. For children, the dose is calculated at 20-50 mg per kilogram of body weight.
Doxycycline	Tetracyclines	Adults take 100-200 mg once or twice a day. For children from nine to twelve years of age, the dose is prescribed at the rate of two to four milligrams per kilogram of body weight.

To prevent the development of infection, as well as if the nephrotic syndrome is caused by chronic glomerulonephritis, antibacterial drugs are prescribed to the patient.

In order to prevent the development of thromboembolic complications in nephrotic syndrome, the patient may be prescribed anticoagulants in small doses (for example, heparin, fraxiparin). Also, if the patient has an increase in blood pressure figures, then the following groups of drugs may be prescribed to him:

- ACE inhibitors (angiotensin converting enzyme) - drugs such as, for example, enalapril, captopril, lisinopril;
- Ca (calcium) ion blockers - drugs such as, for example, nifedipine, amlodipine;
- angiotensin receptor blockers - drugs such as, for example, losartan, valsartan.

The dosage and duration of treatment with these groups of drugs is prescribed individually, depending on the available indications. Diet In case of kidney disorders, the patient is prescribed diet number seven, which allows to normalize metabolism, diuresis, as well as prevent the development and reduce the manifestation of edema. The severity of the diet is determined depending on the following indicators:

- presence and severity of edema;
- protein level in urine test results;
- presence of arterial hypertension;
- the ability of the kidneys to remove nitrogen-containing waste.

The diet for nephrotic syndrome is as follows:

- ➢ the daily norm includes consumption of 2750 - 3150 calories;
- during the day, the number of meals is five to six times;
- eating cooked, stewed and raw food;
- ➢ reducing the consumption of table salt to two to four grams per day or its complete exclusion (will help reduce fluid overload in the body);
- ➢ eating protein-rich foods in the amount of one to two grams per kilogram of body weight (due to increased protein loss);
- ➢ restriction of water consumption (to reduce the manifestation of edema), the volume of fluid required for intake is calculated from the amount of the patient's daily diuresis with the addition of 500 ml (for example, if the patient secretes 500 ml of urine, then another

500 ml should be added and the daily norm will be obtained, that is, one liter);

- eating foods rich in potassium (due to taking diuretic medications);
- reduction of consumption of animal fats up to 80 grams per day (if hyperlipidemia is observed);
- consumption of foods rich in carbohydrates, up to 450 grams per day.

4. Medical and labor expertise. Dispensary observation.

Patients with pre-azotemic and initial CKD are recognized as able-bodied in the absence of complications of the underlying disease and significant clinical signs of uremia, working in non-contraindicated types and working conditions.

Contraindicated types and working conditions. Patients with pre-azothemic and initial CKD are contraindicated for heavy physical labor; work on the conveyor; at a constantly set pace, in a standing position; in unfavorable production conditions (high and low temperature fluctuations, dustiness, smoke, high humidity, drafts); associated with toxic substances, exposure to vibration, high frequency currents and other generated radiation; non-standardized and overtime work; in night shifts; associated with high neuropsychiatric stress.

Disability is not established if the patient has:

Stage 1 CKD, GFR more than 90 ml/min/1.73 m2;

Stage 2 CKD, GFR within 89 - 60 ml/min/1.73 m2

Stage 3A CKD, GFR 59 - 45 ml/min/1.73 m2

Disability of the 3rd group is established if the patient has:

Stage 3 CKD, GFR 44 - 30 ml/min/1.73 m2.

Nephrotic / nephritic syndromes with ineffective treatment with moderate impairment of body functions.

Disability of the 2nd group is established if the patient has:

Stage 4 CKD, GFR 29 - 15 ml/min / 1.73 m2, preparation for dialysis.

Stage 5 CKD (GFR below 15 ml/min/1.73 m2) in the absence of dialysis complications.

Disability of the 1st group is established if the patient has:

Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. The patient is under lifelong observation by a urologist. Annually, the frequency of observations should be at least 2 visits per year or, if necessary, according to indications. A general blood test, a general urine test, a urine test according to Nechiporenko, urine culture for flora and sensitivity to antibiotics – 2 times a year. Biochemical blood test: total protein, albumin, urea, creatinine - 2 times a year. GFR – 2 times a year. Ultrasound of the kidneys - 1 time per year. ECG – 1 time per year. Measurement of blood pressure at each visit, that is, 2 times a year. Urine analysis according to Zimnitsky, daily proteinuria for medical reasons.

Clinical case No. 6

1. What is the preliminary diagnosis?

Preliminary diagnosis: acute left-sided secondary pyelonephritis.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory tests. The gold standard of diagnosis is the detection of bacteriuria and leukocyturia in combination with anamnestic and physical signs of pyelonephritis. GBT: increased ESR, neutrophilic leukocytosis, anemia (in some patients with CKD). Biochemical blood test: proteinogram - in the acute phase, pathological shifts with hypoalbuminemia, hyper-α1, α2-globulinemia are observed, in the late stages with hypogammaglobulinemia. Concentration of nitrogenous slags - there is an increase in creatinine levels, as a result of a decrease in glomerular filtration and impaired excretory function of the kidneys. Electrolyte homeostasis: hypokalemia, hyponatremia, hypocalcemia, which sometimes reach significant severity, are caused by polyuria and a large loss of ions in the urine.

Urine examination: (detection of leukocyturia, proteinuria and bacteriuria) - general analysis, analysis by Nechiporenko. Proteinuria

is usually insignificant and does not exceed, with rare exceptions, 1.0 g / l (most often traces), and the daily excretion of protein in the urine is less than 1.0 g. Leukocyturia can be of varying severity, but more often the number of leukocytes is 5-10, 15-20 in the field of vision, less often reaches 50-100 or more. Occasionally, single hyaline and granular cylinders are found in the urine. Hematuria, more often microhematuria and occurs in 30% of cases. In the absence of proteinuria and leukocyturia, it is necessary to conduct urine tests in dynamics repeatedly, including according to Nechiporenko, for active leukocytes, as well as urine culture for microflora and the degree of bacteriuria. If the protein content in the daily amount of urine exceeds 70-100 mg, in the Nechiporenko study more than 2.5 × 106 / l, then this may speak in favor of CP. The diagnosis of pyelonephritis becomes more convincing if active leukocytes or Sternheimer -Malbin cells are found in the urine of patients. However, their importance should not be overestimated, since it has been established that they are formed at low osmotic pressure of urine and again turn into ordinary leukocytes with an increase in its osmotic activity.

Bacteriuria. The basis for the diagnosis of urinary tract infections is the determination of reliable bacteriuria by quantifying bacteria in an average portion of urine obtained by free urination. A culture study of urine (sowing on nutrient media, isolation of a pure culture of the pathogen and determination of its sensitivity to drugs) is desirable to be carried out in a hospital in all patients. If bacteremia is suspected (high fever, chills), a hemoculture study is required. A necessary condition for the reliability of the results of a bacteriological study is the correctness of urine and blood sampling. Urine for microbiological examination should be collected before the start of antibacterial therapy. If the patient receives antibacterial drugs, they should be canceled 2-3 days before the study.

A study of the concentration capacity of the kidneys (urine analysis according to Zimnitsky) - polyuria with hypo- and isostenuria is observed.

Instrumental research. Ultrasound: unequal kidney sizes, irregularity of their contours, unusual location, deformation and expansion

of the cup-pelvic systems, asymmetry of sizes and contours, size reduction. Radiation diagnostics. R-graph overview: it is possible to identify X-ray-positive stones. Excretory urography: provides information about the violation of the structure and function of the kidneys, the state of the calyx-pelvic system and upper urinary tract. It reveals changes in the size and shape of the kidneys, their location, the presence of concretions in the cups, pelvis or ureters. Allows you to judge the state of the total excretory function of the kidneys. Excretory urography is carried out only in the inactive phase, in the active phase only for vital indications if urological intervention is necessary, it is contraindicated in CKD. In favor of CKD, there are: spasm or pin-shaped expansion of the cups, violation of their tone, deformities and expansion of the pelvis, changes in the shape and tone of the ureters, anomalies of their development, strictures, extensions, kinks, twists, wrinkling of the kidney or kidneys (reduction in size).

Retrograde pyelography is performed with severe CKD, since the contrast of renal tissue and urinary tract in these patients is sharply reduced. If the contours of the kidneys are not clearly detected during overview and excretory urography, as well as if a kidney tumor is suspected, a pneumoretroperitoneum (pneumoren) is used.

Radioisotope renography and scintigraphy: kidney sizes are normal or reduced, isotope accumulation is reduced, the secretory and excretory phases of the renographic curve are lengthened.

Computed tomography is an informative but expensive diagnostic method used in complex differential diagnostic cases.

A lifetime puncture biopsy of the kidney is also performed in terms of differential diagnosis, but it is rarely used in CKD.

3. What is the patient's management?

Treatment provides for the following main measures: elimination of the causes that caused the violation of the passage of urine or renal circulation, especially venous; appointment of antibacterial agents; increased immune reactivity of the body; treatment of CKD should be systematic and prolonged (at least 1 year).

Diet for chronic kidney disease. Patients should observe a gentle regime, avoid colds and hypothermia. All intercurrent diseases require antibacterial therapy and monitoring of urine test data. In all forms and at all stages of CKD, spicy dishes, spices, alcoholic beverages, coffee, meat and fish broths should be excluded from the diet. The food should be sufficiently high in calories and fortified. All vegetables and fruits, especially those rich in potassium, as well as milk and dairy products, eggs, boiled fish and meat are allowed. Patients should consume a sufficient amount of fluid (at least 1.5-2 liters per day) to avoid excessive concentration of urine and to flush the urinary tract. Cranberry juice is especially useful, containing a large amount of sodium benzoate, which in the liver turns into hippuric acid, which acts bacteriostatically in the kidneys and urinary tract.

With chronic kidney disease with anemic syndrome, foods rich in iron and cobalt (strawberries, strawberries, apples, pomegranates) must be included in the diet.

In all cases, melons, watermelons, pumpkin, grapes are recommended for patients. During the exacerbation of the disease, especially with hypertension, salt intake should be limited (up to 2-4 g per day).

Treatment of CKD is conditionally divided into two stages: stage I – treatment of exacerbation (active phase of the disease); stage II – anti-relapse treatment.

Treatment of the active phase. The initial continuous course of antibacterial treatment is 6-8 weeks, since during this time it is necessary to suppress the infectious agent in the kidney and resolve the purulent inflammatory process in it without complications in order to prevent the formation of scar connective tissue. The rapid development of microbial flora resistance to antibacterial drugs, changes in the spectrum of microorganisms that cause microbial-inflammatory process in the urinary system, the production of beta-lactamases by many of them, create difficulties in choosing an antibacterial drug and make traditional therapy ineffective.

An important condition for the effectiveness of antibacterial therapy of CKD is the creation of bactericidal concentrations of antibiotics in urine and kidney tissues. In addition, given the high percentage of

bacteremia observed in CKD, unlike urinary tract infections of other localizations, the antibiotic should create high serum concentrations.

The effectiveness of antibacterial therapy depends on: the etiotropic therapy, the dose of the drug, taking into account the pharmacokinetics of the drug and the course of the disease. The concentration of the antibiotic in the blood should exceed the minimum suppressive concentration for the pathogen by at least four times. On the timeliness of therapy and the rational duration of course treatment and the use of combinations of antibiotics in order to expand the spectrum of action and enhance the antibacterial effect.

Repeated microbiological examination of urine should be carried out 3-4 days after the start of antibacterial therapy and several days after the end of treatment. Catheterization of the bladder is used only for strict indications, most often with acute urinary retention.

For the treatment of severe and moderate forms of CKD, semisynthetic penicillins are prescribed (more often aminopenicillins, including beta-lactamase inhibitors), cephalosporins, aminoglycosides, less often carbapenems. Biosynthetic penicillins and phenicols are not used.

Antibiotics of other groups, in particular tetracyclines, macrolides. rifampicins are used to treat lower urinary tract infections caused by chlamydia, ureoplasma and mycoplasma infections.

Combined antibacterial therapy for CKD is used in:

1. Severe septic course in order to increase the synergism of the action of antibacterial drugs.

2. Severe course of urinary system infection caused by microbial associations.

3. The need to overcome the polyresistance of microorganisms to antibiotics (especially in the treatment of “problematic” infections caused by proteus, Pseudomonas aeruginosa, klebsiella, etc.).

4. The presence of signs of intracellular location of microorganisms (chlamydia, mycoplasma, ureaplasma).

Semi- synthetic penicillin:

1) aminopenicillins: amoxicillin - inside 1.5-3.0 g / day for 3 doses;

2) carboxypenicillins: carbenicillin - in / m 4-8 g / day for 4 injections; ticarcillin - in / m 12-18 g / day for 4-6 injections;

3) ureidopenicillins: azlocillin - in / m 8-12 g / day for 3-4 injections;

4) piperacillin IV or IV 4-6 g / day for 2-3 injections.

Semi-synthetic penicillin combined with B-lactamase inhibitors:

1) augmentin (amoxicillin + clavulanic acid) inside 1,125-1,875 g / day in 3 doses or in / in 3-6 g / day for 3 injections;

2) unazine (ampicillin + sulbactam) inside 0.375-0.75 g / day for 2 doses;

3) thimentin (ticarcillin + clavulanic acid) - in / in 12.4-18.6 g / day for 4 injections;

4) tazocin (piperacillin + tazobactam) - in / in 13.5 g / day for 3 injections.

A wide spectrum of antibacterial action, low toxicity of augmentin allow it to be used as monotherapy for pyelonephritis and urinary tract infections as an empirical starting treatment when the pathogen has not yet been identified. In severe cases, a combination of it with aminoglycosides is possible.

Cephalosporins:

I generation: cefazolin (kefzol) in / m or in / in 2 g / day for 2 injections, cephalexin - inside 0.5-1.0 g / day in 2 doses;

II generation: cefuroxime axetil - 0.25-0.5 g / day in 2 doses, cefaclor inside - 0.75 g / day in 3 doses;

III generation: cefotaxime (claforan) in / in 2-4 g / day for 2 injections; ceftazidim (fortum) in / in 1-2 g / day for 2 injections, ceftriaxone in / m or in / in 1-2 g / day once.

Aminoglycosides:

I generation: gentamicin I/m 3-4 mg/kg;

II generation: amikacin - i / m or I / v 10 mg / kg / day;

III generation - netromycin in / m 4-6 mg / kg / day for 2-3 injections.

Carbopenems:

1) meronem (meropenem) - in / in 1.5 g / day for 3 injections;

2) thienam (imipenem + celastatin sodium) -- in / in / or in / m 1.5 g / day for 3 injections.

Fluoroquinolones:

1) pefloxacin (abactal) – inside 0.8-1.2 g / day;

2) ofloxacin (tarivit) - inside 0.4 g / day in 2 doses;

3) ciprofloxacin inside 0.25-1.0 g / day;

4) norfloxacin (nolicin) inside 0.4 g / day in two doses;

5) lomefloxacin (maxaquin) inside 0.4 g / day once.

Naphthyridine derivatives:

1) nalidixic acid (negram) inside 2-4 g / day in 4 doses;

2) pipemidic acid (palin) 0.8 g / day in 2 doses.

Non-fluorinated fluoroquinolones: Nitroxoline - 5-NOK are currently not used due to the low sensitivity of microorganisms and the development of side effects (prolonged use of nitroxoline leads to the development of optic neuritis).

4. Medical and labor expertise. Dispensary observation.

Examination of working capacity. Temporary disability (TD) is established with an exacerbation of the disease; the occurrence of a hypertensive crisis or a significant increase in blood pressure; the addition of an intercurrent infection; an increase in renal failure. TD depends on the form: acute, acute, subacute, latent.

Acute form: TD is 2-2.5 months, of which 35-40 days in hospital; acute - 1.5-2 months, of which 30-35 days in hospital; subacute - 1 month; latent course - 15-18 days.

In the case of a significant increase in blood pressure without obvious signs of exacerbation of pyelonephritis, severe neurological and cardiovascular complications, the duration of TD is 10-12 days.

Able-bodied patients with chronic pyelonephritis with rare exacerbations, in the remission phase, in the absence of pronounced complications, working in accessible professions and working conditions.

The criteria for the restoration of working capacity are: reduction of proteinuria and hematuria to insignificant, reduction of blood pressure to the initial level, disappearance or reduction of edema, increase

in glomerular filtration, normalization of total protein and acute phase reactions, as well as general blood analysis.

Contraindicated working conditions: 1) work associated with significant physical stress; 2) work at the prescribed pace (on the conveyor); 3) work in unfavorable microclimatic and meteorological conditions; 4) contact with nephrotoxic poisons.

Indications for referral to MSE:

TD > 4 months. with the 3rd degree of activity of the process and a favorable labor prognosis (CKD no more than stage IB).

TD < 4 months. with the 3rd degree of activity and an unfavorable labor prognosis (CKD IIA and more severe stage).

TD < 4 months. in the case of a continuously recurrent course of the disease with high activity (2-3 degrees), pronounced arterial hypertension.

TD < 4 months. with rapid progression of CKD or the addition of extrarenal complications that are not amenable to conservative therapy.

For the first time, chronic pyelonephritis was detected outside of exacerbation with CKD 0 or stage I and the impossibility of rational employment according to the conclusion of the MC of medical and preventive institutions.

The necessary minimum of examination when referring patients to MSE is urine tests (repeated); clinical blood analysis, thrombocytes; daily loss of protein in urine; Rehberg test; creatinine, urea, cholesterol, electrolytes, total protein and fractions; if CKD ABC indicators, bone radiography, alkaline phosphatase; ultrasound, scintigraphy, radiography and kidney biopsy according to indications.

Additional research methods: urine culture with colony counting; ultrasound and radioisotope scanning; intravenous urography; consultation of a urologist.

Criteria for disability in pyelonephritis in adults

Disability is not established if the patient has:

Stage 1 CKD, GFR more than 90 ml/min/1.73 m2;

Stage 2 CKD, GFR within 89 - 60 ml/min/1.73 m2

Stage 3A CKD, GFR 59 - 45 ml/min/1.73 m2

Disability of the 3rd group is established if the patient has: Stage 3 CKD, GFR 44-30 ml/min/1.73 m2. Nephrotic / nephritic syndromes with ineffective treatment with moderate impairment of body functions.

Disability of the 2nd group is established if the patient has: Stage 4 CKD, GFR 29-15 ml/min/ 1.73 m2, preparation for dialysis. Stage 5 CKD (GFR below 15 ml/min/1.73 m2) in the absence of dialysis complications.

Disability of the 1st group is established if the patient has: Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. The patient is under lifelong observation by a urologist. Annually, the frequency of observations should be at least 2 visits per year or, if necessary, according to indications. A general blood test, a general urine test, a urine test according to Nechiporenko, urine culture for flora and sensitivity to antibiotics – 2 times a year. Biochemical blood test: total protein, albumin, urea, creatinine - 2 times a year. GFR – 2 times a year. Ultrasound of the kidneys - 1 time per year. ECG – 1 time per year. Measurement of blood pressure at each visit, that is, 2 times a year. Urine analysis according to Zimnitsky, daily proteinuria for medical reasons.

Clinical case No. 7

1. What is the preliminary diagnosis?

Preliminary diagnosis: Urolithiasis (right ureter stone), obstructive right-sided acute purulent pyelonephritis.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory tests. The gold standard of diagnosis is the detection of bacteriuria and leukocyturia in combination with anamnestic and physical signs of pyelonephritis. GBT: increased ESR, neutrophilic leukocytosis, anemia (in some patients with CKD). Biochemical blood test: proteinogram - in the acute phase, pathological shifts

with hypoalbuminemia, hyper-α1, α2-globulinemia are observed, in the late stages with hypogammaglobulinemia. Concentration of nitrogenous slags - there is an increase in creatinine levels, as a result of a decrease in glomerular filtration and impaired excretory function of the kidneys. Electrolyte homeostasis: hypokalemia, hyponatremia, hypocalcemia, which sometimes reach significant severity, are caused by polyuria and a large loss of ions in the urine.

Urine examination: (detection of leukocyturia, proteinuria and bacteriuria) - general analysis, analysis by Nechiporenko. Proteinuria is usually insignificant and does not exceed, with rare exceptions, 1.0 g / l (most often traces), and the daily excretion of protein in the urine is less than 1.0 g. Leukocyturia can be of varying severity, but more often the number of leukocytes is 5-10, 15-20 in the field of vision, less often reaches 50-100 or more. Occasionally, single hyaline and granular cylinders are found in the urine. Hematuria, more often microhematuria and occurs in 30% of cases. In the absence of proteinuria and leukocyturia, it is necessary to conduct urine tests in dynamics repeatedly, including according to Nechiporenko, for active leukocytes, as well as urine culture for microflora and the degree of bacteriuria. If the protein content in the daily amount of urine exceeds 70-100 mg, in the Nechiporenko study more than 2.5 × 106 / l, then this may speak in favor of CP. The diagnosis of pyelonephritis becomes more convincing if active leukocytes or Sternheimer -Malbin cells are found in the urine of patients. However, their importance should not be overestimated, since it has been established that they are formed at low osmotic pressure of urine and again turn into ordinary leukocytes with an increase in its osmotic activity.

Bacteriuria. The basis for the diagnosis of urinary tract infections is the determination of reliable bacteriuria by quantifying bacteria in an average portion of urine obtained by free urination. A culture study of urine (sowing on nutrient media, isolation of a pure culture of the pathogen and determination of its sensitivity to drugs) is desirable to be carried out in a hospital in all patients. If bacteremia is suspected (high fever, chills), a hemoculture study is required. A necessary condition for the reliability of the results of a bacteriological study is the

correctness of urine and blood sampling. Urine for microbiological examination should be collected before the start of antibacterial therapy. If the patient receives antibacterial drugs, they should be canceled 2-3 days before the study.

A study of the concentration capacity of the kidneys (urine analysis according to Zimnitsky) - polyuria with hypo- and isostenuria is observed.

Instrumental research. Ultrasound: unequal kidney sizes, irregularity of their contours, unusual location, deformation and expansion of the cup-pelvic systems, asymmetry of sizes and contours, size reduction. Radiation diagnostics. R-graph overview: it is possible to identify X-ray-positive stones. Excretory urography: provides information about the violation of the structure and function of the kidneys, the state of the calyx-pelvic system and upper urinary tract. It reveals changes in the size and shape of the kidneys, their location, the presence of concretions in the cups, pelvis or ureters. Allows you to judge the state of the total excretory function of the kidneys. Excretory urography is carried out only in the inactive phase, in the active phase only for vital indications if urological intervention is necessary, it is contraindicated in CKD. In favor of CKD, there are: spasm or pin-shaped expansion of the cups, violation of their tone, deformities and expansion of the pelvis, changes in the shape and tone of the ureters, anomalies of their development, strictures, extensions, kinks, twists, wrinkling of the kidney or kidneys (reduction in size).

Retrograde pyelography is performed with severe CKD, since the contrast of renal tissue and urinary tract in these patients is sharply reduced. If the contours of the kidneys are not clearly detected during overview and excretory urography, as well as if a kidney tumor is suspected, a pneumoretroperitoneum (pneumoren) is used.

Radioisotope renography and scintigraphy: kidney sizes are normal or reduced, isotope accumulation is reduced, the secretory and excretory phases of the renography curve are lengthened.

Computed tomography is an informative but expensive diagnostic method used in complex differential diagnostic cases.

A lifetime puncture biopsy of the kidney is also performed in terms of differential diagnosis, but it is rarely used in CKD.

3. What is the patient's management?

When confirming the diagnosis, the traditional treatment is urgent surgical intervention: nephrostomy + decapsulation of the kidney + ureter lithotomy (with localization of the stone in the upper or middle third of the ureter), with localization of the stone in the lower third of the ureter, only nephrostomy + decapsulation of the kidney. After surgery, intensive antibacterial, anti-inflammatory and detoxification therapy.

Diet for chronic kidney disease. Patients should observe a gentle regime, avoid colds and hypothermia. All intercurrent diseases require antibacterial therapy and monitoring of urine test data. In all forms and at all stages of CKD, spicy dishes, spices, alcoholic beverages, coffee, meat and fish broths should be excluded from the diet.

Treatment of CKD is conditionally divided into two stages: stage I – treatment of exacerbation (active phase of the disease); stage II – anti-relapse treatment.

Treatment of the active phase. The initial continuous course of antibacterial treatment is 6-8 weeks, since during this time it is necessary to suppress the infectious agent in the kidney and resolve the purulent inflammatory process in it without complications in order to prevent the formation of scar connective tissue. The rapid development of microbial flora resistance to antibacterial drugs, changes in the spectrum of microorganisms that cause microbial-inflammatory process in the urinary system, the production of beta-lactamases by many of them, create difficulties in choosing an antibacterial drug and make traditional therapy ineffective.

An important condition for the effectiveness of antibacterial therapy of CKD is the creation of bactericidal concentrations of antibiotics in urine and kidney tissues. In addition, given the high percentage of bacteremia observed in CKD, unlike urinary tract infections of other localizations, the antibiotic should create high serum concentrations.

The effectiveness of antibacterial therapy depends on: the etiotropic therapy, the dose of the drug, taking into account the pharmacokinetics of the drug and the course of the disease. The concentration of the antibiotic in the blood should exceed the minimum suppressive concentration for the pathogen by at least four times. On the timeliness of therapy and the rational duration of course treatment and the use of combinations of antibiotics in order to expand the spectrum of action and enhance the antibacterial effect.

Repeated microbiological examination of urine should be carried out 3-4 days after the start of antibacterial therapy and several days after the end of treatment. Catheterization of the bladder is used only for strict indications, most often with acute urinary retention.

For the treatment of severe and moderate forms of CKD, semisynthetic penicillin are prescribed (more often aminopenicillins, including beta-lactamase inhibitors), cephalosporins, aminoglycosides, less often carbapenems. Biosynthetic penicillin and phenicol are not used.

Antibiotics of other groups, in particular tetracyclines, macrolides. rifampicins are used to treat lower urinary tract infections caused by chlamydia, ureoplasma and mycoplasma infections.

Combined antibacterial therapy for CKD is used in:

1. Severe septic course in order to increase the synergism of the action of antibacterial drugs.

2. Severe course of urinary system infection caused by microbial associations.

3. The need to overcome the polyresistance of microorganisms to antibiotics (especially in the treatment of “problematic” infections caused by proteus, Pseudomonas aeruginosa, klebsiella, etc.).

4. The presence of signs of intracellular location of microorganisms (chlamydia, mycoplasma, ureaplasma).

Semi- synthetic penicillin:

1) aminopenicillins: amoxicillin - inside 1.5-3.0 g / day for 3 doses;

2) carboxypenicillins: carbenicillin - in / m 4-8 g / day for 4 injections; ticarcillin - in / m 12-18 g / day for 4-6 injections;

3) ureidopenicillins: azlocillin - in / m 8-12 g / day for 3-4 injections;

4) piperacillin IV or IV 4-6 g / day for 2-3 injections.

Semi-synthetic penicillin combined with B-lactamase inhibitors:

1) augmentin (amoxicillin + clavulanic acid) inside 1,125-1,875 g / day in 3 doses or in / in 3-6 g / day for 3 injections;

2) unazine (ampicillin + sulbactam) inside 0.375-0.75 g / day for 2 doses;

3) thimentin (ticarcillin + clavulanic acid) - in / in 12.4-18.6 g / day for 4 injections;

4) tazocin (piperacillin + tazobactam) - in / in 13.5 g / day for 3 injections.

A wide spectrum of antibacterial action, low toxicity of augmentin allow it to be used as monotherapy for pyelonephritis and urinary tract infections as an empirical starting treatment when the pathogen has not yet been identified. In severe cases, a combination of it with aminoglycosides is possible.

Cephalosporins:

I generation: cefazolin (kefzol) in / m or in / in 2 g / day for 2 injections, cephalexin - inside 0.5-1.0 g / day in 2 doses;

II generation: cefuroxime axetil - 0.25-0.5 g / day in 2 doses, cefaclor inside - 0.75 g / day in 3 doses;

III generation: cefotaxime (claforan) in / in 2-4 g / day for 2 injections; ceftazidim (fortum) in / in 1-2 g / day for 2 injections, ceftriaxone in / m or in / in 1-2 g / day once.

Aminoglycosides:

I generation: gentamicin I/m 3-4 mg/kg;

II generation: amikacin - i / m or I / v 10 mg / kg / day;

III generation - netromycin in / m 4-6 mg / kg / day for 2-3 injections.

Carbopenems:

1) meronem (meropenem) - in / in 1.5 g / day for 3 injections;

2) thienam (imipenem + celastatin sodium) -- in / in / or in / m 1.5 g / day for 3 injections.

Fluoroquinolones:

1) pefloxacin (abactal) – inside 0.8-1.2 g / day;
2) ofloxacin (tarivit) - inside 0.4 g / day in 2 doses;
3) ciprofloxacin inside 0.25-1.0 g / day;
4) norfloxacin (nolicin) inside 0.4 g / day in two doses;
5) lomefloxacin (maxaquin) inside 0.4 g / day once.

Naphthyridine derivatives:
1) nalidixic acid (negram) inside 2-4 g / day in 4 doses;
2) pipemidic acid (palin) 0.8 g / day in 2 doses.

Non-fluorinated fluoroquinolones: Nitroxoline - 5-NOK are currently not used due to the low sensitivity of microorganisms and the development of side effects (prolonged use of nitroxoline leads to the development of optic neuritis).

4. Medical and labor expertise. Dispensary observation. Examination of working capacity. Temporary disability (TD) is established with an exacerbation of the disease; the occurrence of a hypertensive crisis or a significant increase in blood pressure; the addition of an intercurrent infection; an increase in renal failure. TD depends on the form: acute, acute, subacute, latent.

Acute form: TD is 2-2.5 months, of which 35-40 days in hospital; acute - 1.5-2 months, of which 30-35 days in hospital; subacute - 1 month; latent course - 15-18 days.

In the case of a significant increase in blood pressure without obvious signs of exacerbation of pyelonephritis, severe neurological and cardiovascular complications, the duration of TD is 10-12 days.

Able-bodied patients with chronic pyelonephritis with rare exacerbations, in the remission phase, in the absence of pronounced complications, working in accessible professions and working conditions.

The criteria for the restoration of working capacity are: reduction of proteinuria and hematuria to insignificant, reduction of blood pressure to the initial level, disappearance or reduction of edema, increase in glomerular filtration, normalization of total protein and acute phase reactions, as well as general blood analysis.

Contraindicated working conditions: 1) work associated with significant physical stress; 2) work at the prescribed pace (on the

conveyor); 3) work in unfavorable microclimatic and meteorological conditions; 4) contact with nephrotoxic poisons.

Indications for referral to MSE:

TD > 4 months. with the 3rd degree of activity of the process and a favorable labor prognosis (CKD no more than stage IB).

TD < 4 months. with the 3rd degree of activity and an unfavorable labor prognosis (CKD IIA and more severe stage).

TD < 4 months. in the case of a continuously recurrent course of the disease with high activity (2-3 degrees), pronounced arterial hypertension.

TD < 4 months. with rapid progression of CKD or the addition of extrarenal complications that are not amenable to conservative therapy.

For the first time, chronic pyelonephritis was detected outside of exacerbation with CKD 0 or stage I and the impossibility of rational employment according to the conclusion of the MC of medical and preventive institutions.

The necessary minimum of examination when referring patients to MSE is urine tests (repeated); clinical blood analysis, thrombocytes; daily loss of protein in urine; Rehberg test; creatinine, urea, cholesterol, electrolytes, total protein and fractions; if CKD ABC indicators, bone radiography, alkaline phosphatase; ultrasound, scintigraphy, radiography and kidney biopsy according to indications.

Additional research methods: urine culture with colony counting; ultrasound and radioisotope scanning; intravenous urography; consultation of a urologist.

Criteria for disability in pyelonephritis in adults

Disability is not established if the patient has:

Stage 1 CKD, GFR more than 90 ml/min/1.73 m2;

Stage 2 CKD, GFR within 89 - 60 ml/min/1.73 m2

Stage 3A CKD, GFR 59 - 45 ml/min/1.73 m2

Disability of the 3rd group is established if the patient has: Stage 3 CKD, GFR 44-30 ml/min/1.73 m2. Nephrotic / nephritic syndromes with ineffective treatment with moderate impairment of body functions.

Disability of the 2nd group is established if the patient has: Stage 4 CKD, GFR 29-15 ml/min/ 1.73 m2, preparation for dialysis. Stage 5 CKD (GFR below 15 ml/min/1.73 m2) in the absence of dialysis complications.

Disability of the 1st group is established if the patient has: Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. The patient is under lifelong observation by a urologist. Annually, the frequency of observations should be at least 2 visits per year or, if necessary, according to indications. A general blood test, a general urine test, a urine test according to Nechiporenko, urine culture for flora and sensitivity to antibiotics – 2 times a year. Biochemical blood test: total protein, albumin, urea, creatinine - 2 times a year. GFR – 2 times a year. Ultrasound of the kidneys - 1 time per year. ECG – 1 time per year. Measurement of blood pressure at each visit, that is, 2 times a year. Urine analysis according to Zimnitsky, daily proteinuria for medical reasons.

Clinical case No. 8

1. What is the preliminary diagnosis?

Chronic kidney disease (CKD) stage 4 (GFR 15 ml/min), chronic glomerulonephritis. Arterial hypertension of the 3rd stage of renal genesis, a very high risk of cardiovascular diseases. Severe nephrogenic anemia. Edematous syndrome. Albuminuria of the 3rd degree. Azotemic (metabolic) cardiomyopathy with rhythm disturbances by the type of ventricular extrasystole. Electrolyte imbalances need to be clarified. Toxic encephalopathy.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory and instrumental studies. Changes in laboratory and instrumental data depend on the underlying disease and have a large number of variations.

The patient is recommended: monitoring of daily albuminuria in dynamics (to assess the result of treatment), ultrasound of the heart and pericardium (to assess the degree of hypertrophy of the walls of the left ventricle, clarification of systolic and diastolic contractility of the heart, the presence of hydropericardium), ultrasound of pleural cavities (to exclude hydropericardium), DMBP (to assess the stability of blood pressure and daily profile), Holter daily ECG monitoring (to identify the frequency and severity of arrhythmias); Zimnitsky test, blood biochemistry: serum iron, OHSS, total protein and its fractions, total cholesterol and lipid spectrum, blood electrolytes – K,Ca, P, Na, uric acid.

General blood test – normal/hyperchromic anemia, leukocytosis, thrombocytopenia/thrombocytosis, increased ESR.

Biochemical blood analysis – hypo-/hyperkalemia, hypo-/hypernatremia, hypoalbuminemia, hypercholesterolemia, hyper-/hypoproteinemia, hyperuricemia, hypergammaglobulinemia, determination of the level of nitrogenous slags, electrolytes, liver function indicators, CRP. Sometimes a violation of phosphorus-calcium metabolism is an early sign of CKD. Determination of the M-gradient for the diagnosis of AL-type amyloidosis; indicators of acid-base state;

Immunological blood test - determination of antinuclear antibodies, antinuclear factor, antibodies to double-stranded DNA, antibodies to Sm-antigen, ribonucleoprotein, to Ro/SS-A antigens and La/SS-B antigens and histones; specific antinuclear "sclerodermic" antibodies (anti-Scl-TO, anti-centromeric, anti-RNA polymerase).

General urinalysis – proteinuria, ranging from minimal to massive. Persistent microhematuria, sometimes macrohematuria; leukocyturia; hyaline, granular cylinders; hyperuricosuria; glucosuria; lipiduria with the presence of birefringent crystals and droplets in the urine sediment; the presence of Bence-Jones protein is characteristic of AL–type amyloidosis.

Ultrasound of the kidneys allows you to assess their size, parenchyma thickness, the state of the calyx-pelvic system, to identify concretions, cysts, tumors.

Doppler examination of the renal arteries to exclude atherosclerosis of the renal arteries or vasorenal hypertension.

There may be rhythm and conduction disturbances on the ECG, LVH with violations of repolarization processes.

On echocardiography, the changes vary depending on the primary cause of CKD.

Also, in instrumental diagnostics, it is necessary to perform radiography of the chest organs, joints; examination of the fundus vessels; kidney biopsy and other instrumental and laboratory data, depending on the true cause of CKD.

3. What is the patient's management? Treatment. Treatment of patients is determined by the stage of CKD and is divided into two stages: conservative (predialysis) and renal replacement (dialysis and transplantation). Knowledge of risk factors and mechanisms of CKD progression forms the basis of a nephroprotective and nephrocardioprotective strategy, the main task of which is to preserve kidney function. Nephroprotective therapy includes not only etiological, pathogenetic therapy for this nosology, but also, depending on the clinical picture, hypotensive therapy, correction of lipid, purine, phosphorus-calcium metabolism, additional cardio-(vasoprotective) (antiplatelet agents, etc.) treatment and treatment of concomitant diseases that may contribute to the progression of CKD.

The diet for CKD should be balanced and complete, the consumption of table salt is limited (no more than 5 g / day). Special importance is attached to the appointment of a low-protein diet. At the 1st stage - there is no need to limit protein, the 2nd stage somewhat limits protein intake (not less than 0.8 g / kg). At the 3rd stage, a low-protein (0.3–0.4 g / kg) or low–protein (0.6-0.8 g / kg) diet is used. The water regime is determined by the specific clinical situation. Most patients are shown to consume at least 2 liters of liquid in cool weather and up to 3 liters in hot weather, especially with urolithiasis, purine metabolism disorders, and a tendency to urinary infection. With nephrotic syndrome, decreased diuresis, fluid is limited. Caloric intake is 30-35

kcal / kg of body weight, but in patients with overweight, obesity, hyperlipidemia, diabetes mellitus - up to 1200-1400 kcal.

In hyperphosphatemia, the daily intake of phosphorus should not exceed 800 mg / day. We must not forget about the normalization of body weight, the importance of metered physical activity (at least 30 minutes a day or an hour three times a week) and the patient's refusal to smoke. Patients with CKD are also recommended to exclude: hypothermia, prolonged exposure to the sun; overload, stress, lack of sleep; alcohol abuse, drug use; frequent contact with paints, varnishes, organic solvents, heavy metals. The use of analgesics and NSAIDs should be as limited as possible – no more than one tablet per month, with the possibility of complete exclusion.

The basis of nephroprotective therapy consists of drugs that block the renin-angiotensin system (ACE inhibitors and angiotensin receptor blockers - ARBs), which play a key role in the progression of nephrosclerosis.

Patients with CKD and arterial hypertension should be prescribed ACE inhibitors or ARBs, a renin inhibitor, as first-line antihypertensive drugs, if their use is not contraindicated. Achieving the target BP often requires the appointment of combination therapy.

BMCC is the second group of drugs that effectively enhances the hypotensive effect. Diuretics are also drugs of the 2nd, 3rd series. However, at stage 3B of CKD, the effectiveness of thiazide diuretics sharply decreases and the risk of their undesirable effects (hyperuricemia) increases. Loop diuretics are preferred at this and later stages. At any stage of CKD, hyperuricemia sharply limits the possibility of prescribing saluretics. Aldosterone antagonists have not only a good hypotensive, but also nephro- and cardioprotective effect, however, these drugs are not recommended for GFR < 30 ml / min / 1.73 m2, especially in elderly people when taking RAAS blockers, given the risk of deterioration of kidney function and hyperkalemia. Beta-blockers, imidazoline receptor agonists, alpha-blockers, alpha-beta-blockers can also be used in severe hypertension as drugs of the 3rd, 4th series.

Patients with stage 2-3 CKD and the presence of albumin / proteinuria should be prescribed i-ACE and ARB even in the absence

of hypertension, since these drugs have an antiproteinuric effect. The administration of these drugs reduces the initial level of albumin / proteinuria by an average of 1.5-2 times (the maximum effect is expected only after 3-6 months from the start of therapy).

For the treatment of hyperlipidemia, which occurs as often as hypertension (up to 80% of patients), statins are used (target LDL-C levels < 1.8 mmol / l for CKD patients with GFR 30-60 ml /min / 1.73 m2 and < 1.4 mmol /l for patients with GFR < 30 ml /min / 1.73 m2). It is also advisable to add ezetimibe with insufficient effectiveness of statins, especially with hypertriglyceridemia.

For the treatment of hyperuricemia in CKD, in addition to a purine-restricted diet, allopurinol is prescribed at a dose of 20-100 mg / day, depending on the stage of CKD. With GFR < 30 ml/min/1.73 m2, allopurinol is contraindicated. When phosphorus-calcium metabolism is impaired (often found in stage 4-5 CKD), drugs that bind phosphorus in the intestine (calcium carbonate) and vitamin D3 replacement therapy (under the control of calcium and phosphorus levels in the blood) are used. In the treatment of anemia, iron preparations (under the control of transferin and ferritin), recombinant human erythropoietin (epoetin alpha, epoetin beta), vitamins B12, folic acid are used. Iron preparations such as iron (III) hydroxide sucrose complex, iron (III) hydroxide polymaltosate and polyisomaltosate, iron sulfate are used.

The indication for renal replacement therapy is the development of stage 5 CKD.

Kidney transplantation. The indication for kidney transplantation is severe progressive CKD, refractory to the basic treatment of the underlying disease, regardless of the cause that caused it.

Absolute contraindications (in which transplantation cannot be performed in principle):

1. Malignant neoplasms.
2. Organic damage to the cardiovascular system, complicated by chronic circulatory insufficiency of the IIB-III degree.
3. Violation of cerebral circulation.
4. Chronic respiratory failure.
5. Cirrhosis of the liver and liver failure of any etiology.

6. Widespread severe atherosclerosis with arterial insufficiency or making it technically impossible to perform a kidney transplant.

7. Mental illness.

8. AIDS.

Relative contraindications (those that can be eliminated or compensated, after which kidney transplantation becomes possible):

1. Active hepatitis.

2. Infectious diseases.

3. Severe arterial hypertension.

4. Circulatory insufficiency of the early stages.

5. Polyserositis (including uremic genesis).

6. Diseases of the gastrointestinal tract in the acute phase.

7. Vesicoureteral reflux.

8. Infravesical obstruction.

9. Diseases of the bladder that violate its function.

10. Pronounced dystrophy of the patient.

4. Medical and labor expertise. Dispensary observation. Temporary and permanent disability. The determining factor in assessing the ability to work of a patient with CKD is the severity of the course of diseases (hypertension, CHD, type 2 diabetes, etc.) that caused the development of CKD, the presence of complications, the functional state of the kidneys, the nature and type of professional activity.

Patients with pre-azotemic and initial CKD are recognized as able-bodied in the absence of complications of the underlying disease and significant clinical signs of uremia, working in non-contraindicated types and working conditions.

Indications for referral to medical and social expertise. All patients with terminal CKD are referred (serum creatinine above 0.45 mmol/L glomerular filtration below 20% of the proper one is maintained for more than 3 months), patients receiving dialysis or with a transplanted kidney; patients with pre-azotemic and initial CKD in the presence of contraindicated types and working conditions.

The necessary minimum of research. Additionally, during dialysis: biochemical adequacy indicators (Kt/V, urea and blood content

before and after dialysis; hemoglobin and blood albumin; serum potassium, calcium, phosphorus content before and after dialysis), bone radiographs. Additionally, after nephrotransplantation: graft function, immunological status indicators, sandimmune concentration, graft ultrasound.

Contraindicated types and working conditions. Heavy physical labor is contraindicated for patients with pre-azothemic and initial CKD; work on the conveyor; at a constantly set pace, in a standing position; in unfavorable production conditions (high and low temperature fluctuations, dustiness, smoke, high humidity, drafts); work associated with toxic substances, exposure to vibration, high frequency currents and other generated radiation; irregular and overtime work; in night shifts; associated with high neuropsychiatric stress.

Criteria for disability in CKD in adults:

Disability is not established if the patient has:

- Stage 1 CKD, GFR greater than 90 ml/min/1.73 m2;
- Stage 2 CKD, GFR within 89-60 ml/min/1.73 m2;
- Stage 3A CKD, GFR 59-45 ml/min/1.73 m2.

Group III disability is established if the patient has: CKD 3B-stage, GFR 44-30 ml/min / 1.73 m2. Nephrotic / nephritic syndromes with ineffective treatment with moderate impairment of body functions.

Disability of group II is established if the patient has: Stage 4 CKD, GFR 29-15 ml/min/ 1.73 m2, preparation for dialysis. Stage 5 CKD (GFR below 15 ml/min/1.73 m2) in the absence of dialysis complications.

Disability of group I is established if the patient has: Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. The main indications for outpatient consultation of a nephrologist. First identified and confirmed by repeated examination: proteinuria, albuminuria ≥ 30 mg/day (mg/g), hematuria, decreased GFR to less than 60 ml/min / 1.73 m2, increased creatinine or blood urea, arterial hypertension, first detected at the age of less than 40 years or older than 60 years, treatment-resistant arterial

hypertension, impaired renal concentration function, tubular disorders (nocturia, polyuria, persistent depression of urine specific gravity, glucosuria at normal blood sugar levels), signs of Fanconi syndrome, other tubulopathies, resistant rickets in a child, especially in combination with impaired physical development.

The main indications for specialized nephrological inpatient examination:

1. Oliguria (diuresis less than 500 ml / day), anuria.

2. Rapidly progressive decrease in kidney function (doubling of blood creatinine levels in less than 2 months).

3. For the first time, a decrease in GFR to a level below 30 ml/min or a blood creatinine level of ≥ 250 mmol/l for men and ≥ 200 mmol/l for women.

4. Nephrotic syndrome (proteinuria more than 3 g / day, hypoalbuminemia).

5. Pronounced urinary syndrome (proteinuria more than 1 g/day) was detected for the first time.

Patients with CKD can be divided into the following dispensary groups.

1 group. In the presence of one or more CKD risk factors – In the presence of 1 risk factor - 1 time in 3 years. With a combination of several risk factors – 1 time per year. At each visit – general urine analysis, biochemical blood test with determination of creatinine content, calculation of glomerular filtration rate according to the formula CKD-EPI, uric acid, total cholesterol, triglycerides, glucose, blood pressure measurement, kidney ultrasound (for persons with direct relatives with CKD, for patients with hematuria). Vaccination against influenza (in the absence of contraindications in patients with autoimmune kidney diseases) – annually - in the presence of hypertension, type 2 diabetes, coronary heart disease.

Group 2. Proteiuria (PU) < 0.5 g/l, GFR ≥ 60 ml/min/1.73 m2 (CKD with a moderate risk of terminal KD (TKD) and CVC). Once a year, consultations with a nephrologist: primary – when CKD is detected, repeated - when the course of CKD worsens, i.e. the appearance of PU > 0.5 g / l and / or a decrease in GFR to < 60 ml / min /

1.73 m2. At each visit – general urine analysis, biochemical blood test with determination of creatinine content, calculation of glomerular filtration rate according to the formula CKD-EPI, uric acid, total cholesterol, triglycerides, glucose, blood pressure measurement, kidney ultrasound (for persons with direct relatives with CKD, for patients with hematuria). Vaccination against influenza (in the absence of contraindications in patients with autoimmune kidney diseases) – annually - in the presence of hypertension, type 2 diabetes, coronary heart disease.

Group 3. GFR ≥ 60 or GFR 45-59 ml/min / 1.73 m2 (CKD with high risk of TKD and CVC). At least once every 6 months, observation by a therapist, observation by a nephrologist - at least once a year. A general urine test when taken under the DN, then as prescribed by a nephrologist, a urine test for albuminuria - at least once a year (in patients with hypertension and diabetes mellitus), a general blood test when taken biochemical blood with the determination of creatinine, uric acid, total cholesterol, triglycerides, glucose, sodium, then according to the appointment of a nephrologist, calculation of the glomerular filtration rate according to the formula CKD-EPI at each examination, ultrasound of the kidneys, then according to the appointment of a nephrologist, measurement of blood pressure at each visit. Vaccination against influenza (in the absence of contraindications in patients with autoimmune kidney diseases) – annually - in the presence of hypertension, type 2 diabetes, coronary heart disease. Correction of therapy (if necessary).

Group 4. GFR 30-59 or GFR 30-44 ml/min/ 1.73 m2 (CKD with a very high risk of cardiovascular complications). At least once every 3 months, observation by a therapist, observation by a nephrologist - at least once every 6 months. A general urine test when taken under the DN, then, according to the appointment of a nephrologist, a urine test for albuminuria – at least once a year (in patients with hypertension and diabetes mellitus and PU < 0.5), a general blood test when taken under the DN, then by appointment of a nephrologist, a biochemical blood test with determination of creatinine, uric acid, total cholesterol, triglycerides, glucose, sodium, potassium when taken under the DN, then by appointment of a nephrologist, calculation of glomerular

filtration rate according to the formula CKD-EPI at each examination, ultrasound of the kidneys, then by appointment appointment of a nephrologist, measurement of blood pressure at each visit. Vaccination against influenza (in the absence of contraindications in patients with autoimmune kidney diseases) – annually - in the presence of hypertension, type 2 diabetes, coronary heart disease is carried out.

Group 5. Patients with very high-risk CKD and ESRD with GFR < 30 ml/min/1.73 m2 are referred to a regional nephrological center for registration and preparation for renal replacement therapy.

Clinical case No. 9

1. What is the preliminary diagnosis?

Preliminary diagnosis: Acute post-streptococcal glomerulonephritis. Exacerbation of chronic tonsillitis, chronic purulent rhinosinusitis.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory and instrumental studies. Blood: leukocytosis, increased ESR, hyperfibrinogenemia, hypoproteinemia, dysproteinemia, hypergammaglobulinemia. Increased creatinine levels. Urine: low specific gravity, proteinuria, leukocyturia, hematuria, cylindruria. Rehberg-Tareev test: reduction of glomerular filtration and tubular reabsorption. Nechiporenko's test: hematuria, cylindruria. Zimnitsky's test: hypostenuria, isostenuria, nocturia. Radioisotope renography is a symmetrical decrease in filtration and excretory functions of the kidneys. Excretory urography is a symmetrical decrease in the filtration function of the kidneys. Kidney biopsy: morphological variants of kidney damage.

3. What is the patient's management?

Treatment is carried out over a long period and can take from several months to several years, and sometimes throughout the patient's life. Treatment tasks: 1) achieve the reverse development

of kidney lesions with the restoration of their function; 2) stop the progression of nephritis; 3) slow down the rate of increase in CKD. Mode: avoid hypothermia, excessive physical exertion, psychoemotional stress. It is forbidden to work at night, in hot and cold rooms, business trips, overheating, sunburn are not recommended. Diet: is one of the most important elements of the complex therapy of CGN. The diet No. 7 according to M.I. Pevsner with variation 7a, 7b is used.

Diet therapy is designed for a long time, therefore, when prescribing it, it is necessary to take into account the clinical form of the disease, its course (remission or exacerbation), stage (compensated or with CKD phenomena). In patients with latent and hematuric forms (with isolated urinary syndrome), dietary restrictions should be minimal. Nutrition should correspond to the physiological needs of the body with an average protein content of 1 g per 1 kg of body weight in the daily diet with a slight restriction of table salt (up to 6-8 g per day) and without significant fluid restriction. The diet should include vegetable products rich in vitamins C, P (lemon, rosehip infusion, black currant, etc.), strengthening the vascular wall and reducing its permeability. In patients with hypertensive CGN with the same protein content, a stricter restriction of table salt and liquid is required in the daily diet. With all clinical forms of CGN, especially with hypertension, a dairy-vegetable diet is preferred. In the case of persistent and persistent hypertension, it is recommended to periodically spend fasting days (fruit-rice, potato, vegetable, etc.). Such a diet, poor in sodium chloride and rich in potassium, helps to reduce blood pressure and increases the effectiveness of antihypertensive agents. With nephrotic and mixed forms of CGN, a very strict and long-term restriction of table salt (3-4 g per day, taking into account its content in food) and liquid is required. It should be borne in mind that bread is rich in salt (in white bread – 0.6%, in black – 0.75% sodium chloride) and butter. For such patients, a special “kidney bread” is baked, that is, without adding salt, and the oil is repeatedly washed or soaked in water. With persistent and persistent edema, it is recommended to carry out so-called “zigzags”, that is, periodically, then increase (with a decrease in edema), then again strictly limit the amount of salt in the diet.

Along with the restriction of sodium chloride, it is necessary to observe the restriction of liquid. The amount of it during the day, taking into account liquid dishes, should not exceed 600-800 ml and depends on the volume of daily diuresis and the dynamics of edematous syndrome. The convergence or reduction of edema is facilitated by unloading apple or apple-potato days (1-2 times a week). Watermelon, pumpkin, melon, grapes, bananas have a diuretic effect.

Pathogenetic treatment of glomerulonephritis. Immunosuppressive therapy is used to suppress the activity: GC, non-selective and selective cytostatics and cyclosporine-A (CSA). When prescribing immunosuppressive therapy, the following provisions should be followed:

1. Immunosuppressive therapy is always indicated for high activity of GN.

2. First-time NS, especially without hematuria and hypertension, is always an indication for the treatment of GC.

3. With rapidly progressing forms of nephritis (with a rapid increase in creatinine levels), it is mandatory to prescribe immunosuppressants - large doses of GC and cytostatics inside and / or in the form of "pulses".

Glucocorticoids (GC), which have immunosuppressive and anti-inflammatory effects, have remained the main means of pathogenetic therapy of nephritis for several decades. More often used orally – prednisone in high (1-2 mg / kg per day) or moderately high (0.6–0.8 mg / kg per day) doses, daily in 2-3 doses or once in the morning, for a long time (1-4 months), followed by a slow decrease. An alternating mode is also possible, when the patient takes a double daily dose every other day in the morning.

With high activity of renal inflammation to quickly achieve very high concentrations of GC in blood plasma, "pulse therapy" is indicated – intravenous administration of ultra-high doses (0.8–1.2 g) of methylprednisolone or prednisolone for three days in / in drip.

Maintenance therapy of GC is carried out for two months at a dose of 10-20 mg / day. The timing of maintenance therapy is determined empirically, usually two months. With systemic diseases, longer

therapy is required, while taking the drug every other day causes fewer side effects than daily therapy. In such situations, the dose of GC for alternating therapy is 2-3 times higher than with daily intake. In this regard, the best tactic of maintenance therapy of GC is considered to reduce the daily dose to the lowest level, and then switch to an alternating mode using a two-time dose of daily intake.

Cytostatic drugs in the treatment of nephritis are used somewhat less frequently because of the greater severity of side effects. As a rule, alkylating compounds are used – cyclophosphamide (at a dose of 1.5-2 mg / kg per day) and chlorbutin (at a dose of 0.1-0.2 mg / kg per day); antimetabolite azathioprine is less effective, although less toxic. The decrease in the number of white blood cells occurs within a few days or weeks. During this period, it is important to check the number of leukocytes in the peripheral blood every 2-3 days so that when they decrease to the lower permissible level, the dose of the drug can be reduced or canceled. The most serious side effects of alkylating cytostatics are bone marrow suppression, the development of infections and gonad insufficiency. Other complications: hepatitis, alopecia, hemorrhagic cystitis, gastrointestinal disorders and an increased risk of developing tumors. The initial dose of CsA for adults in a nephrological clinic is 3-5 mg / kg, for children - 6 mg / kg per day. In the future, the dose depends on the tolerability, the presence of side effects and the concentration in the blood serum, which should be checked regularly. CsA is indicated primarily in patients with minimal changes and FSGS with frequent recurrence of NS or steroid-resistant NS, with the development of complications of steroid and cytostatic therapy. The most serious complications of CsA treatment are hypertension and nephrotoxicity.

Mycophenolate mofetil, a derivative of mycophenolic acid, is an inosine monophosphate dehydrogenase inhibitor that depletes the reserves of guanidine nucleotides in cells, selectively inhibits the proliferation of T and B lymphocytes, the production of AT and the formation of cytotoxic T lymphocytes.

Not only immunosuppressive therapy, but also the so-called non-immune nephroprotective therapy, the possibilities of which have

significantly expanded over the past decade, can stabilize the course of GN, slow down its progression, and sometimes even lead to its reverse development. At the present stage, we can talk about four methods of nephroprotective therapy, the effect of which on the progression of GN has been proven. These are: ACE inhibitors and angiotensin II receptor blockers; heparin; dipyridamole; lipid-lowering drugs, primarily statins.

Anticoagulants reduce intravascular coagulation, including intraclubular coagulation, improve microcirculation, inhibit the synthesis of antibodies, improve diuresis, reduce blood pressure, slow down the migration of leukocytes, have an anti-inflammatory effect. They are indicated for nephrotic syndrome, edematous syndrome, increasing CKD, moderate hypertension. Heparin 5000-10000 units 4 times a day subcutaneously into the anterior abdominal wall. The course is 6-8 weeks with gradual cancellation. Weekly monitoring of APTT is required.

4. Medical and labor expertise. Dispensary observation. Indications for hemodialysis: a decrease in glomerular filtration of 15 - 10 ml / min, it is important not to miss the deadline for entering the patient into hemodialysis with CKD. Examination of working capacity. The duration of temporary disability depends on the clinical form of the disease and the state of kidney function, which occurs with an exacerbation of the disease: exacerbation of the latent form - the duration of temporary disability – 14-20 days; mild urinary syndrome - 20-25 days; hypertensive form of glomerulonephritis - 25-30 days; nephrotic form - 40-45 days. With an unfavorable course of the disease, signs of CKD, patients are referred to the MSEC to establish a disability group.

Patients with CGN in remission are able to work, with rare relapses, having isolated changes in urine, NS without exacerbation, medically controlled hypertension of I-II degree, in the absence of significant complications of active therapy (hormones, cytostatics, plasmapheresis) and leading GN syndromes (acute nephritic syndrome, NS, AH), working in non-contraindicated types and working

conditions. The ability to work persists at the pre-azotemic and initial stages of CKD.

Contraindicated types and working conditions: 1) absolute: hard physical labor; work at a rigidly set pace (on the conveyor), in a static pose, unfavorable production conditions (low or high temperatures, high humidity, dust, smoke, drafts, etc.), in contact with nephrotic poisons; work related to the impact on the body of vibration, high frequency currents; irregular working day, night shifts; 2) relative: moderate physical labor, work associated with prolonged standing, forced body position, significant neuropsychiatric stress.

Indications for referral to the medical and social expertise. AGN with chronic disease, CGN with continuous recurrence, current NS, progressive or high grade III hypertension, extrarenal complications of the disease or treatment, newly diagnosed or progressive terminal CKD.

The required minimum of examination: urine tests (repeated); clinical blood analysis, platelets; daily loss of protein in urine; Rehberg test; creatinine, urea, cholesterol, electrolytes, total protein and fractions; with CKD, CBS indicators, bone radiography, alkaline phosphatase; ultrasound, scintigraphy, radiography and kidney biopsy according to indications.

Criteria for disability in adult glomerulonephritis

Disability is not established if the patient has:

Stage 1 CKD, GFR more than 90 ml/min/1.73 m2;

Stage 2 CKD, GFR within 89-60 ml/min/1.73 m2;

Stage 3A CKD, GFR 59-45 ml/min/1.73 m2.

Group III disability is established if the patient has: Stage 3 CKD, GFR 44-30 ml/min/1.73 m2. Nephrotic / nephritic syndromes with ineffective treatment with moderate impairment of body functions.

Disability of group II is established if the patient has: Stage 4 CKD, GFR 29-15 ml/min/ 1.73 m2, preparation for dialysis. Stage 5 CKD (GFR below 15 ml/min/1.73 m2) in the absence of dialysis complications.

Disability of group I is established if the patient has: Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. Patients are observed for life: with hypertensive form - twice a year, with nephrotic form - four times a year. Once a year – examination of specialists: gynecologist, dentist, urologist, otorhinolaryngologist, ophthalmologist. Main activities: rehabilitation of foci of infection, physiotherapy, spa treatment, diet. Patients are under the supervision of a nephrologist, in his absence - a district therapist or a general practitioner.

Clinical case No. 10

1. What is the preliminary diagnosis?

Preliminary diagnosis: tuberculosis of the kidneys, stage of latent course

2. What additional tests would you recommend to the patient, and what are the expected results?

Diagnosis of tuberculosis is carried out in order to recognize the disease and establish the correct diagnosis, which is based on the study of the patient's complaints, the history of the disease and life and the application of a number of studies.

Laboratory diagnostics (general clinical and biochemical analyses).

Bacteriological diagnostic methods. Detection of Mycobacterium tuberculosis is a mandatory component in the diagnosis of tuberculosis of the kidneys.

Bacterioscopic examination

Tuberculosis analysis by direct bacterioscopy is the easiest and fastest way to detect tubercle bacilli in the test material. It is possible to detect the presence of a Koch wand within 1 hour. When using this method, the detection of mycobacteria is possible only if they contain at least 10 thousand microbial bodies in 1 ml of the material. Therefore, a negative result does not yet serve as a basis for excluding

the diagnosis of tuberculosis. In addition, the quality of the diagnostic material affects the effectiveness of the analysis.

Cultural method

The effectiveness of the cultural diagnostic method depends on the properly collected material for the study. If tuberculosis of the genitourinary system is suspected, urine collected in the morning (after a night's sleep) is taken for microbiological examination. The best option is a collected average portion of morning urine. Sterile dishes are used to collect the analysis. Before collecting urine, a thorough toilet of the external genitalia is carried out.

Analysis for tuberculosis by seeding (culture method) is more sensitive than smear microscopy. MBTs are detected if there are several hundred of them in the studied material. The response time is from 3 weeks to 3 months. Before this period, chemotherapy is prescribed "blindly".

PCR (polymerase chain reaction) method

Diagnosis of tuberculosis of the kidneys using the PCR technique is the most promising in modern conditions. The high sensitivity of the test makes it possible to detect MBT DNA in various biological materials, which is especially important in the diagnosis of extrapulmonary forms of the disease. Mycobacteria are detected if there are several dozen of them in the studied material. This diagnostic method does not replace the cultural method.

Automated Mycobacterium cultivation system

Diagnosis of kidney tuberculosis using automated mycobacterium cultivation systems MGIT-BACTEC-960 and MB/Bact significantly reduces the detection time of mycobacterium growth, which averages 11-19 days.

Sensitivity of diagnostic methods:

PCR - 75 %,

BACTEC — 55,8%,

cultural method — 48.9%,

microscopy — 34%.

Average time of MBT detection by different diagnostic methods:

by seeding method - 24 days,

VASTES — up to 14 days,

PCR — 1 day.

Instrumental diagnostic methods

Ultrasound diagnosis of kidney tuberculosis

Ultrasound diagnostics of kidney tuberculosis helps to determine the localization of the process, the degree of destruction of organ tissue and to carry out dynamic monitoring. In the presence of cavities in the kidneys, ultrasound reveals rounded thick-walled formations.

CT (computer) and MRI (magnetic resonance) tomography

These diagnostic methods make it possible to identify the degree of organ damage, the exact localization of the pathological process and the presence of specific changes in regional lymph nodes.

Angiography

It helps to study the functional state of blood vessels and the prevalence of the lesion site.

3. What is the patient's management?

Treatment of kidney tuberculosis is a long process. It requires a lot of patience and self-discipline from the patient. In tuberculosis, not only the affected organ suffers, but also the entire body as a whole.

The strategy of the treatment process is to suppress the mycobacterium population as quickly as possible and to regress pathological changes caused by infection.

Treatment of kidney tuberculosis should be comprehensive, taking into account the patient's age and concomitant pathology:

impact on infection;

the effect on the sick organism as a whole (immune status) and on the pathological processes occurring in it (pathogenetic treatment);

reduction of the level and elimination of manifestations of symptoms of the disease;

local treatment,

the use of surgical methods of treatment.

First-line drugs are highly effective and low-toxic. They are the main ones in the treatment of tuberculosis. These include:

rifampicin, isoniazid, metazid, ftivazid, phenazid,

aminoglycosides (kanamycin, amikacin, streptomycin),
ethambutol,
pyrazinamide.

Second-line drugs are prescribed when the patient has a poor tolerance of first-line drugs or resistance to them is revealed.

These drugs are highly toxic and ineffective. These include:
fluoroquinolones,
PASA,
cycloserine,
protionamide,
ethionamide,
capreomycin et al.

Anti-tuberculosis drugs are prescribed taking into account the weight of the patient, the side effect of the antibacterial drug, the concomitant pathology of the patient. There are 3 or more drugs in the treatment regimen. Of these, two drugs – rifampicin and isoniazid are the main ones.

Treatment of tuberculosis is significantly complicated in the case of late detection of the disease, when the affected organ is significantly destroyed and terrible complications have appeared, and the patient himself is exhausted and anemic.

The problem of drug resistance

With irregular intake of anti-tuberculosis drugs, MBT resistance develops. Stable forms are transmitted from a sick person to a healthy one.

The arsenal of drugs for the treatment of drug-resistant tuberculosis around the world is very small. The growth of resistant forms of the disease is outpacing the search for new medicines. Resistance to the two main drugs (isoniazid and rifampicin) is called multidrug resistance and is the No. 1 problem worldwide.

Surgical treatment

It is used when the tuberculosis process cannot be stopped by conservative methods of treatment. The volume of surgical intervention depends on the degree of destruction of organ tissues. The following types of surgical interventions are distinguished:

resection - removal of a part of an organ;

cavernectomy is the removal of a pathological destroyed area - the cavern. It is considered an organ-preserving type of surgical treatment.

nephrectomy is the removal of a kidney.

Minimally invasive technologies are currently used to eliminate the consequences of ureteral stenosis.

4. Medical and labor expertise. Dispensary observation.

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The required minimum of examination: urine tests (repeated); clinical blood analysis, trombocytes; daily loss of protein in urine; Rehberg test; creatinine, urea, cholesterol, electrolytes, total protein and fractions; if CKD ABC indicators, bone radiography, alkaline phosphatase; ultrasound, scintigraphy, radiography and kidney biopsy according to indications.

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Disability of group I is established if the patient has: Stage 5 CKD, GFR below 15 ml/min / 1.73 m2, in the presence of complications with significant impairment of body functions.

Dispensary observation. Patients are observed for life: with hypertensive form - twice a year, with nephrotic form - four times a year. Consultations of a phthisiologist 2 times a year. Once a year – examination of specialists: gynecologist, dentist, urologist, otorhinolaryngologist, ophthalmologist. Main activities: rehabilitation of foci of infection, physiotherapy, spa treatment, diet. Patients are under the supervision of a nephrologist, in his absence - a district therapist or a general practitioner.

Chapter 11. ENDOCRINOLOGY SECTION

Clinical case No. 1

Patient N, 28 years old, an interpreter, went to the polyclinic to see a family doctor with complaints of constant nervousness, tension, weakness, palpitations, hand tremors. It became difficult to concentrate, including at work, became irritable. Symptoms increased over 6 months, notes a decrease in body weight by about 5 kg in 4 months. Insomnia, dizziness, weakness have joined in the last month, and therefore she decided to see a doctor. From the anamnesis it is known that there are no chronic diseases, she does not take medications. Heredity is not burdened. Menses have been absent for 2 months, before that they were regular. The patient is not married, denies regular sex life, doesn't use contraceptives. The patient does not smoke, does not use drugs and rarely drinks small amounts of alcoholic beverages. During the interview, the patient is agitated and mobile.

On objective examination, the height is 174 cm, the body weight is 51 kg, the skin is hot and moist, the body temperature is 36.9 ° C. There is a bilateral exophthalmos and a lag of the upper eyelid when looking down. On palpation of the neck, a symmetrically enlarged thyroid gland is determined without clearly palpable nodes, elastic consistency, and mobile, painless. Percussion the size of the heart is not changed, rhythm is regular, heart rate - 112 per minute, blood pressure - 140/65 mm Hg. Vesicular breathing, no wheezing. The abdomen is painless, the liver and spleen are not enlarged. The skin of the legs is compacted, hyperemic on both sides. In the Romberg position, it is stable, but there is a tremor of the hands.

Questions:

1. What is the preliminary diagnosis?

2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?

4. Medical and labor expertise. Dispensary observation

Clinical case No. 2

Patient N, 37 years old, a pharmacist, consulted a family doctor in a polyclinic with complaints of general weakness, rapid fatigue, hair loss, memory impairment, decreased interest in life, facial swelling, menstrual irregularities. She considers herself ill for the last 2 years, when she moved to live in another city. Her condition gradually worsened, she gained 13 kg in weight during the period of illness.

On objective examination: the general condition is satisfactory, increased nutrition (height 163 cm, weight 92 kg). The skin is pale, dry, peeling of the skin is pronounced on the legs. There is swelling of the face, legs. The thyroid gland is not palpable. There is a postoperative scar in the neck area. The voice is harsh. The patient is slow. Muffled heart sounds, rhythmic contractions. Heart rate 57 per minute. BP - 110/60 mm Hg. In the lungs, vesicular breathing with a harsh shade. The tongue is thickened, along the edges there are traces of teeth. The abdomen is somewhat swollen, constipation. The liver and spleen are not enlarged.

Complete Blood Count: RBC – $3,1x10^{12}$/L, Hb –92 g/L, MCH – 20 pg/cell, WBC – $4,8x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $214,0x10^{9}$/L, ESR – 3 mm/h.

Questions:

1. What is the preliminary diagnosis?

2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?

4. Medical and labor expertise. Dispensary observation

Clinical case No. 3

Patient N, 18 years old, a cook, went to the polyclinic to see a family doctor, but at the reception he suddenly fell out of his chair and lost consciousness. According his father, over the past few days he complained of severe weakness, fatigue, drowsiness, and drank a lot of liquids. 18 days before that, he had a severe viral infection, which he contracted, presumably from his younger brother.

On objective examination: the patient is unconscious. Weakly reacts to painful stimuli. The skin is dry, tissue turgor is reduced. The eyeballs are soft on palpation. The smell of acetone from the mouth. Heart rhythm is regular. Heart rate - 122 per minute. BP - 70/40 mm. Hg. Breathing is noisy, frequent. Respiratory rate - 27 per minute. On auscultation, wheezing is not heard. The tongue is dry, coated with a dirty brown coating, the mucous membrane of the mouth is dry. The abdomen is soft. Liver - along the edge of the costal arch.

Laboratory: blood glucose in cito - 32 mmol / l.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 4

Patient N, 37 years old, a designer, went to see a family doctor in a polyclinic for spasm of facial muscles, discomfort, fear of death, sweat. It is known from the anamnesis that the patient underwent a strumectomy operation and a day after it there were signs of hypertonicity of the symmetrical muscle group: spasm of the facial muscles "Sardonic smile", lips in the shape of a "fish mouth", trismus of the chewing muscles. When the light is turned on, cramps occur in the muscles of the upper extremities, "the hand of an obstetrician".

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 5

Patient N, 50 years old, a power engineer turned to the family doctor for an appointment with complaints of weakness, thirst, and poor sleep. It is known from the anamnesis that type 2 diabetes mellitus was revealed during a medical examination a week ago.

On objective examination: height - 172 cm, weight - 108 kg. Body mass index (BMI) - 37.5 kg / m2. Waist circumference - 120 cm. Skin of moderate moisture, deposition of subcutaneous tissue mainly in the abdomen. Breathing is vesicular. Pulse - 76 beats per minute. Heart rhythm is regular, muffled, blood pressure - 160/90 mm Hg. The liver is not enlarged. No edema.

Presented the results of sugar on a glucometer: fasting glucose - 7.8 mmol / l, glucose 2 hours after eating - 10 mmol / l. HbA1c - 7.5%. Biochemical blood test: total protein - 75 g / l, albumin - 46 g / l, total bilirubin - 13.1 mmol / l, creatinine - 80 μmol / l, ALT - 65, AST - 53. Glomerular filtration rate (GFR) - 91 ml / min.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 6

Patient N, 27 years old, nanny, turned to the family doctor with complaints of obesity, the appearance of stripes (striae) of various colors on the abdomen, thighs, increased skin pigmentation in places of friction (neck, elbows, abdomen), the growth of a mustache, beard, hair on breasts and pubes in the male pattern, for pain in the spine, bones, muscle weakness, menstrual irregularities.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 7

Patient N, 53 years old, a manager, went to see the family doctor with complaints of poor sleep. From the anamnesis it is known that heredity for CVD is burdened by the maternal line (essential hypertension at the age of 50, acute cerebrovascular accident at the age of 60). The patient has been smoking for about 30 years, up to 1.5 packs of cigarettes a day. Drinks alcohol - about 100 ml of spirits per week. A diet high in fatty foods and carbohydrates. For 9 months of the year, he leads a sedentary lifestyle, and for 3 months - with heavy physical exertion.

On objective examination: the condition is satisfactory. Height - 177 cm, weight - 102 kg (body mass index - 32.8 kg / m^2). Waist circumference - 108 cm. The skin is clean, normal color. Xanthomas are absent. No peripheral edema. In the lungs, breathing is hard, there are no wheezing. heart rhythm is regular, the accent of the II tone above the aorta. BP - 130/80 mm Hg. Heart rate - 70 beats in min. The abdomen is soft, painless on palpation in all parts. The liver and spleen are

not enlarged. Swinging in the projection of the kidneys is painless on both sides.

In the analyzes: total cholesterol - 5.9 mmol / L, TG - 4.1 mmol / L, HDL-C - 0.9 mmol / L; LDL-C 3.22 mmol / l; fasting glucose - 6.2 mmol / l, glucose tolerance test: glucose after 2 hours 7.9 mmol / l, HbA1c 6.3%, creatinine - 64 μmol / l, GFR (according to the CKD-EPI formula) = 108 ml / min.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 8

Patient N, 32 years old, a flight attendant, turned to the local doctor with complaints of decreased performance, drowsiness, moderate weakness, memory loss, constipation. Recently, she began to notice thinning and dulling of hair, a decrease in mood.

From the anamnesis it is known that the woman is being observed by a gynecologist for primary infertility, her husband has been examined and is healthy. In addition, the patient repeatedly consulted an otolaryngologist with complaints of hoarseness.

On objective examination, attention is drawn to the dryness and pallor of the skin, swelling of the face, and depletion of facial expressions. He answers the doctor's questions slowly, in monosyllables. Height - 165 cm, weight - 80 kg. During auscultation of the heart, the tones are muffled. The boundaries of the heart are within normal limits. Pulse - 50 beats per minute, rhythm is regular, satisfactory filling and tension. BP-110/70 mm Hg. On palpation, the thyroid gland is enlarged in size, dense, mobile, and painless.

According to the results of ultrasound, a diffuse decrease in the echogenicity of the gland tissue is noted. The size of the gland:

isthmus - 0.4 cm; right lobe - 2.7-2.5-3 cm; left lobe - 3.2-2.8-2.8 cm. In the hormonal blood test: TSH (thyroid-stimulating hormone) - 10 mIU / l (0.4-4); Thyroxin - 8 pmol / l (10.5-22), prolactin - 950 m U / l (40-600)

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 9

Patient N, 73 years old, housewife, complains to the local therapist about recurrent headaches; weakness and fatigue; shortness of breath with little physical exertion, and with moderate forms - and at rest; sleep apnea, chest pain; itching of the skin, maceration of the skin in the groin and axillary areas; increased appetite; dry mouth, thirst, polyuria.

On objective examination, attention is drawn to excess body weight with a predominant abdominal adipose tissue deposition. BMI over 35 kg / m^2. On auscultation of the heart, the sounds are muffled. The boundaries of the heart are within normal limits. Pulse - 40 beats per minute, rhythm is regular, satisfactory filling and tension. BP - 150/90 mm Hg. On palpation of the abdomen: soft, painless.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 10

A patient with Addison's disease is constantly taking prednisolone 10 mg per day and cortinef 1 (Fludrocortisones) tablet in the morning. Within a week, heartburn, hungry pains in the epigastric region appeared, and a duodenal ulcer was diagnosed, the development of which was probably promoted by taking prednisolone. She independently canceled prednisone, after which general weakness appeared and began to grow, hypotension up to 80/40 mm Hg, nausea, bloating, diarrhea, increased hyperpigmentation of the skin and mucous membranes. Taking antiulcer drugs (blockers of gastric secretion and antacids) did not alleviate the condition, weakness reached the degree of adynamia, and collapse developed. The patient was called by the family doctor at home.

The general condition is serious. Skin hyperpigmentation. Adynamia. Subcutaneous adipose tissue of homogeneous consistency, no edema and pastiness. The thyroid gland is not visually determined, on palpation of a soft-elastic consistency, painless. Peripheral lymph nodes are not enlarged. The joints are not externally changed. The cardiovascular system: the apical beat is located in the V intercostal space 1.5-2 cm medially from the left mid-clavicular line. With percussion, the border of relative cardiac dullness is within normal limits. On auscultation, heart sounds are clear, rhythm is regular, no noise is heard. Blood pressure 80/40 mm Hg. Respiratory system. On examination, the chest is of the correct shape, symmetrical. Respiratory rate - 30 in 1 min. When auscultation over the lungs on both sides, vesicular breathing is determined. On palpation, the abdomen is soft, painful. Percussion borders of the liver are within normal limits. The gallbladder is not palpable; palpation in its projection is painless.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Chapter 12. STANDARD OF ANSWERS FOR THE ENDOCRINOLOGY SECTION

Clinical case No. 1

1. What is the preliminary diagnosis?
Diffuse toxic goiter. Moderate thyrotoxicosis.

2. What additional tests would you recommend to the patient, and what are the expected results? Laboratory tests: TSH is reduced by less than 0.1 mIU / l; thyroxine - increased; free triiodothyronine - increased; Antibodies to thyroid peroxidase, Antibodies to thyroglobulin - increased; Antibodies to the TSH receptor are increased.

ESR - increased with de Quervain's thyroiditis; chorionic gonadotropin - increased in choriocarcinoma.

Instrumental research

Ultrasound - the volume and echo structure of the thyroid gland are determined. With Graves' disease: a diffuse increase in the volume of the thyroid gland, the echogenicity of the thyroid gland is uniformly reduced, the echostructure is homogeneous, the blood supply is enhanced. With Autoimmune thyroiditis: heterogeneity of echogenicity. With multinodular toxic goiter: formations in the thyroid gland. In thyroid cancer: hypoechoic formations with uneven contours of the node, growth of the node beyond the capsule and calcification.

Thyroid scintigraphy. Used isotope technetium 99mTc, I123, less often I131. In Graves' disease, there is an increase and uniform distribution of the isotope. With functional autonomy, the isotope accumulates an actively functioning node, while the surrounding thyroid tissue is in a state of suppression. With destructive thyroiditis (subacute, postpartum), the uptake of the drug is reduced. For multinodular toxic goiter, "hot nodules" are characteristic, with cancer - "cold nodules". Thyroid scintigraphy is indicated for multinodular toxic goiter, if the

TSH level is below normal, or for the purpose of topical diagnosis of ectopic thyroid tissue or retrosternal goiter. In iodine-deficient regions, thyroid scintigraphy with multinodular toxic goiter is indicated even if the TSH level is in the lower normal range.

Computed tomography - diagnosis of a retrosternal goiter, its location in relation to the surrounding tissue, to determine the displacement or compression of the trachea and esophagus.

Magnetic resonance imaging - diagnostics of a retrosternal goiter, its location in relation to the surrounding tissue, to determine the displacement or compression of the trachea and esophagus.

X-ray examination with contrasting with barium of the esophagus - diagnosis of a retrosternal goiter, its location in relation to the surrounding tissue, to determine the displacement or compression of the trachea and esophagus.

Fine-needle aspiration biopsy of thyroid nodules and cytological examination are performed in the presence of nodules in the thyroid gland. Puncture biopsy is indicated for all palpable nodules; the risk of cancer is the same with solitary nodular formation and multinodular goiter. With neoplasms of the thyroid gland, cancer cells are detected. With autoimmune thyroiditis-lymphocytic infiltration.

Additional diagnostic methods for thyrotoxicosis: ECG diagnostics of rhythm disturbances; 24-Hour Holter monitoring - diagnostics of heart disorders, chest x-ray / fluorography - exclusion of a specific process, with the development of CHF. Ultrasound of the abdominal organs - in the presence of CHF, toxic liver damage. Echocardiography - dilatation and hypertrophy of the left heart. Gastroscopy - in the presence of concomitant pathology. Densitometry - diagnostics of osteoporosis.

3. What is the patient's management?

Currently, there are three main methods of treatment for diffuse toxic goiter: drug therapy, surgical intervention - subtotal resection of the thyroid gland, and treatment with radioactive iodine. All available methods of therapy for diffuse toxic goiter lead to a decrease in the increased level of circulating thyroid hormones to normal levels.

Each of these methods has its own indications and contraindications and should be determined for patients individually. The choice of the method depends on the severity of the disease, the size of the thyroid gland, the age of the patients, and concomitant diseases. For the drug treatment of diffuse toxic goiter - mercazolil (foreign analogues of methimazole and thiamazole). Treatment with mercazolil can be carried out for any severity of the disease. However, a condition for successful drug treatment is an enlargement of the gland to the III degree. In more severe cases, after preliminary preparation with thyrostatic drugs, patients are sent for surgical treatment or radioiodine therapy. Doses of mercazolil range from 20 to 40 mg / day, depending on the severity of the disease. Treatment is carried out by monitoring the pulse rate, body weight, and clinical blood tests. After reducing the symptoms of thyrotoxicosis, maintenance doses of mercazolil are prescribed (2.5-10 mg / day). The total duration of drug therapy for diffuse toxic goiter is 12-18 months. If it is impossible to remove mercazolil due to deterioration of the condition at maintenance doses and the occurrence of relapses of the disease, patients should be referred for surgical treatment or radioiodine therapy. Patients with a tendency to relapse are not recommended to be treated with mercazolil for many years, since there is a possibility against the background of increased thyroid-stimulating hormone production of morphological changes in the thyroid gland. Many authors point to the likelihood of thyroid cancer as a result of prolonged thyrostatic therapy for a number of years. Until now, there are no reliable methods for determining the activity of immune changes during thyrostatic treatment.

4. Medical and labor expertise. Dispensary observation.

Disability criteria:

1) Other autoimmune diseases associated with thyrotoxicosis

2) Lack of effect from conservative treatment for 6 months with recurrences of thyrotoxicosis and thyrotoxic crisis

3) Severe thyrotoxicosis, requiring the appointment of glucocorticoid therapy and long-term correction of impaired metabolism.

4) Complications of thyroidectomy - paralysis of the vocal folds, hypoparathyroidism.

Rehabilitation: medical rehabilitation - treatment under the supervision of an endocrinologist; psychological, pedagogical and professional - during the period of remission of the disease.

Prevention. For the prevention of diffuse toxic goiter, it is recommended:

- monitor the state of the immune system, temper the body with the help of water procedures, take vitamin and mineral complexes;
- follow a diet, include seafood, iodized salt and greens in your diet;
- strengthen the neck muscles through exercise;
- drink at least two liters of water per day;
- void stress, increased mental and physical stress.

Clinical case No. 2

1. What is the preliminary diagnosis?

Postoperative hypothyroidism.

2. What additional tests would you recommend to the patient, and what are the expected results?

Thyroid hormone profile

Defeat level	**TSH**	**free Thyroxin**	**free Triiodothyronine**
Primary	Increased	Decreased	Normal or decreased
Secondary / tertiary	Decreased or normal	Decreased	Decreased
Peripheral resistance	Normal or elevated	Normal or elevated	Normal or elevated

Increased levels of antibodies to thyroid peroxidase and / or to thyroglobulin in cases of hypothyroidism due to Hashimoto's thyroiditis. Anemia due to impaired hemoglobin synthesis, deficiency of iron, vitamin B12 and folate (due to loss during menorrhagia and impaired

intestinal absorption), etc. Hypercholesterolemia, increased LDL, lipoprotein A and homocysteine.

Instrumental research:

- Ultrasound of the thyroid gland: often - a decrease in the volume of the organ, changes characteristic of autoimmune thyroiditis, nodular and cystic formations are possible.
- ECG: decreased voltage of QRS complexes, T and P waves, sinus bradycardia, impaired repolarization processes in the ventricular myocardium.
- Chest x-ray: enlarged heart due to interstitial myocardial edema, myofibril swelling, left ventricular dilatation and myocardial effusion, possibly pericardial effusion; MRI or CT of the pituitary gland is indicated for central hypothyroidism.
- Echocardiography with severe heart failure.

3. What is the patient's management? The main drug is levothyroxine sodium 25-150 mcg tablets. Starting daily dose for overt hypothyroidism: in patients under 60 years of age - 1.6-1.8 mcg / kg; in patients with concomitant diseases of the cardiovascular system and over 60 years old - 12.5–25 μg, followed by an increase of 12.5–25 μg every 6–8 weeks. Take in the morning on an empty stomach no later than 30 minutes before a meal. After taking thyroid hormones for 4 hours, avoid taking antacids, iron and calcium supplements. The selection of the maintenance dose is carried out under the control of the general condition, pulse rate and determination of the blood TSH level in primary hypothyroidism, free T4 - in the central form. The first determination is made no earlier than 6 weeks from the start of therapy, then until the effect is achieved - once every 3 months. After reaching the clinical and laboratory effect to determine the adequacy of the dose of levothyroxine, the study of TSH or free thyroxine is performed once every 6 months. Replacement doses of T4 for adults - 50-200 mcg / day, on average - 125 mcg / day.

4. Medical and labor expertise. Dispensary observation. Patients with adequately selected therapy are considered able-bodied.

III group of disability is established with the ineffectiveness of the therapy, the occurrence of complications. With hypothyroidism, work at night is prohibited, associated with hypothermia, with excessive physical and mental stress. Terms of temporary disability: Disabled during the selection of substitution therapy: 35-45 days.

Dispanserisation. Patients are registered with an endocrinologist, in his absence - with a local general practitioner. During the selection period, the dose is observed - once every 2 weeks, then - according to indications.

List of main diagnostic measures:

1. General blood analysis (6 parameters) - when making a diagnosis; at normal rates - 2 times a year; with hypothyroid anemia - once every 1-3 months (according to indications, depending on the severity of anemia).

2. Determination of the level of TSH in the blood - during the selection of the dose 1 time in 4-8 weeks; during maintenance therapy once every 6 months; according to indications more often (for life).

3. Determination of the level of free fractions of triiodothyronine and thyroxin in the blood - for diagnosis.

4. Determination of the level of total cholesterol and triglycerides in the blood - when making a diagnosis; at an increased level, once every 3 months; with normal - 2 times a year.

5. ECG - when the diagnosis is made, in patients with heart disease - during the dose selection period 1 time in 2-4 weeks (according to indications, depending on the severity of heart damage), during the period of maintenance therapy 1 time in 6 months, with the appearance of heart failure according to indications - more often.

6. Consultation of an endocrinologist.

List of additional diagnostic measures:

1. Ultrasound of the thyroid gland.

2. Puncture biopsy of the thyroid gland.

3. Determination of the titer of antibodies to thyroglobulin and thyroid peroxidase.

4. CT or MRI of the brain (with central hypothyroidism).

5. Consultation of a neurologist, according to indications - a neurosurgeon.

6. Consultation with a cardiologist.

7. Consultation with a hematologist in case of anemia.

Prevention: recommendations for a healthy lifestyle. Hardening procedures. Remediation of foci of chronic infection. Criteria for the effectiveness of clinical examination: normalization of the ventilation function of external respiration.

Clinical case No. 3

1. What is the preliminary diagnosis?

Diabetes mellitus type I (insulin-dependent), first diagnosed. Diabetic ketoacidosis (DKA).

2. What additional tests would you recommend to the patient, and what are the expected results?

General urine analysis: glucosuria, ketonuria. Not a diagnostic criterion, but may be the first sign on occasional examination. C-peptide is a marker of residual insulin secretion (normally 0.28-1.32 pg / ml).

Test for C-peptide reserves: as a rule, with diabetes mellitus 2, the level of C-peptide is increased or normal; when manifesting with insulin deficiency syndrome, it decreases.

Instrumental research:

- ECG - to detect possible rhythm disturbances, myocardial ischemia, signs of left ventricular myocardial hypertrophy;
- Echocardiography - to identify signs of dystrophy of certain areas of the myocardium, dilatation of cavities, myocardial hypertrophy, ischemic zones, assessment of the expulsion fraction;
- Ultrasound of the abdominal organs - to identify concomitant pathology;
- Doppler ultrasonography of the vessels of the lower extremities - to detect changes in the speed indicators of blood flow in the main arteries and arteries of the feet;

- System daily monitoring of glucose - a method of continuous monitoring of glycemia in order to select and correct hypoglycemic therapy, educate patients and involve them in the treatment process;
- radiography of the feet - to assess the severity and depth of tissue damage in diabetic foot syndrome; microbiological examination of wound discharge with trophic lesions of the feet - for rational antibiotic therapy;
- electroneuromyography of the lower extremities - for early diagnosis of diabetic polyneuropathy

3. What is the patient's management? Table number 9. Bed rest. Treatment:

1) Rehydration (saline solution intravenously up to 10% of body weight),

2) Insulin 6-8 units per hour intravenously drip, if necessary, correction of electrolyte and acid-base balance. The task of the polyclinic doctor (endocrinologist or therapist) includes helping the patient's family in the process of adaptation, teaching the family the rules of life with a diabetic. The doctor must be in regular contact with the family members of the patient, to know the peculiarities of the lifestyle and psychological climate of the family.

If necessary, the attending physician should advise the patient with diabetes mellitus to consult a psychotherapist or psychiatrist. This specialist will help the patient master the methods of auto-training, relaxation, get rid of depression, feelings of inferiority and fear of the disease, will help the patient return interest in the world around him. The main idea in conversations with the patient and his family members should be the setting that if the doctor's recommendations are followed, the appointments are fulfilled, the diet is followed, the quality and duration of the patient will not change significantly.

Patients with diabetes mellitus should regularly visit the clinic for dynamic monitoring of their health.

The frequency of examinations depends on the severity of the course of the disease.

Multiplicity of studies depending on the form of severity of diabetes mellitus

A regular clinical examination of the patient is necessary, including examination by specialists (endocrinologist, ophthalmologist, neurologist, surgeon, gynecologist), weighing and measuring growth, examining the skin, mucous membranes, oral cavity, teeth; taking an electrocardiogram (ECG). With a mild degree of the disease, a complete clinical examination of the patient is carried out every six months; with a moderate course, once every 3 months; with a severe course of the disease, monthly.

In addition to patients with diabetes mellitus, persons who are at risk of developing diabetes mellitus are subject to medical examination.

4. Medical and labor expertise. Dispensary observation.

Indications for referral to the Bureau of Medical and Social Expertise.

1) Severe form of diabetes mellitus, pronounced manifestations of microangiopathy with significant dysfunction of organs and systems;

2) Labile form (frequent hypoglycemic conditions, ketoacidosis) or difficult to compensate diabetes mellitus of moderate severity;

3) Diabetes of mild to moderate severity with the need for rational employment with reduced qualifications or a decrease for work performed.

Disability criteria.

I group of disability is established in patients with severe diabetes mellitus with the presence of significantly pronounced dysfunctions of the endocrine and other systems: retinopathy (blindness in both eyes), neuropathy (persistent paralysis, ataxia), diabetic encephalopathy with severe mental disorders; diabetic cardiomyopathy (HF III degree); severe angiopathy of the lower extremities (gangrene, diabetic foot); end-stage chronic renal failure; with frequent hypoglycemia and diabetic coma. The limitations of the ability to work activity of the III degree, self-service of the III degree, movement of the III degree, orientation II-III degree. Patients need constant outside help and care.

II group of disability is determined by patients with a severe form of sugar diabetes with severe dysfunctions of the affected systems and

organs: retinopathy II-III degree, nephrotic syndrome, initial chronic renal failure, terminal chronic renal failure with adequate dialysis or successful kidney transplant, neuropathy II degree (severe paresis), encephalopathy with persistent mental changes, which lead to a limitation of the ability to work II-III degree, ability to move and self-service II degree. In patients with moderate dysfunctions of organs and systems with labile course, when it is not possible to achieve stable stabilization of glucose levels.

III group of disability is determined by patients with mild and moderate severity of diabetes mellitus or its labile course with moderate dysfunctions of organs and systems that lead to limitation ability to self-service, work activity I degree, if at work the patient in the main profession has contraindicated factors, and rational employment leads to a decrease in qualifications or significant decrease in the volume of production activities. Young people III disability group is established for the period of study, acquisition of a new profession of light physical or mental labor with moderate neuro-emotional stress.

Clinical case No. 4

1. What is the preliminary diagnosis?

Postoperative hypoparathyroidism.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory diagnostics of hypoparathyroidism includes the determination of the content of parathyroid hormone in the blood and urine, the concentration of phosphorus and calcium in the blood. Hypoparathyroidism is characterized by:

- hyperphosphatemia
- hypocalcemia
- hypophosphaturia
- hypercalciuria
- decrease in the amount of parathyroid hormone in both the blood and urine.

Instrumental diagnostics:

- X-ray examination - calcification of the cartilage of the ribs and signs of osteosclerosis are revealed
- densitometry - increased bone density is detected
- magnetic resonance imaging - there are deposits of calcium salts in the tissues of the brain, subcutaneous tissue and internal organs

To determine increased neuromuscular conductivity, a hyperventilation test is performed.

3. What is the patient's management?

Therapy of hypoparathyroidism and prevention of seizures is carried out under the constant supervision of an endocrinologist. A diet rich in calcium, magnesium and poor in phosphorus (dairy products, vegetables, fruits) is prescribed. A sharp restriction or rejection of meat products is necessary during an exacerbation of hypoparathyroidism. It is important to take vitamin D2 (ergocalciferol) with food, which is contained in the yolk of eggs, liver, and fish oil.

With hypoparathyroidism, calcium preparations are prescribed (calcium carbonate, calcium gluconate). To increase the absorption of calcium in the intestine, it must be taken simultaneously with ammonium chloride, gastric juice or diluted hydrochloric acid. Compensation of the condition in hypoparathyroidism with calcium monotherapy does not completely normalize its level in the blood; therefore, vitamin D preparations are additionally used (ergocalciferol, alfacalcidol). To activate the production of vitamin D in their own body, patients with chronic hypoparathyroidism are recommended moderate physiotherapy ultraviolet radiation or sunbathing.

4. Medical and labor expertise. Dispensary observation.

1 group of disability is defined in a severe form of the disease with pronounced hypotension, adynamic with a pronounced limitation of life activity, leading to a pronounced social maladjustment due to the impossibility of learning, communication, orientation, control over one's behavior, movement, self-service, participation in labor activities, if these disorders cause the need for constant care or assistance

2 group of disability is determined with significantly pronounced disabilities leading to social maladjustment due to the same reasons as in the first group, but while maintaining the ability to self-service, severe endocrine hypothalamic-pituitary syndromes, with sharply and significantly expressed endocrine disorders or the development of visceral and other disorders.

3 group of disability is determined in the presence of moderate or mild endocrine disorders that restrict life activity and reduce the possibilities of social adaptation due to pronounced difficulty in learning, communication, movement, as well as labor activity (reduced qualifications or volume of work, difficulty in performing professional work due to anatomical defects).

Clinical case No. 5

1. What is the preliminary diagnosis?

1. DM type 2, the individual target level of glycated hemoglobin is less than 7.0%. Arterial hypertension 2 degrees, risk 4. Obesity 2 degrees (BMI = 37.2 kg / m²), abdominal type.

2. What additional tests would you recommend to the patient, and what are the expected results?

General blood analysis - exclusion of anemia, inflammatory changes in the blood, general urine analysis - one-time proteinuria, possible micro hematuria, cylindruria, leukocyturia, bacteriuria (urinary tract infection with diabetes), urine for ketone bodies. Determination of microalbuminuria, daily proteinuria, GFR, creatinine, urea, potassium to assess the functional state of the kidneys and early detection of complications of diabetes - diabetic nephropathy and clarification of its stage, lipid spectrum, ALT, AST, total protein, bilirubin and its fractions - assessment of the functional state of the liver, exclusion of cytolysis syndrome against the background of steatohepatitis; uric acid (metabolic syndrome), ECG (assessment of rhythm and conduction, hypertrophy of the heart), electromyography of the lower extremities (clarification of the stage of polyneuropathy), Doppler ultrasound

of the arteries of the lower extremities (exclusion of atherosclerotic changes in the arteries of the lower extremities, assessment of the degree of stenosis), glycosylated hemoglobin -determination of patient management tactics and the appointment of starting hypoglycemic therapy, the dynamics of changes during treatment.

3. What is the patient's management?

Diet 9, since the patient is obese, a low-calorie diet is recommended (less than 1800, but not 1500 kcal / day), a decrease in calorie content from the initial level is carried out at 300-500 kcal / week, fasting is prohibited, exclude easily digestible carbohydrates-sugar, cookies, sweets, jam, waffles, pastries, honey, sugary drinks, cakes, chocolate, dried fruits, bananas, grapes, melon, semolina and rice porridge, fractional meals 4-6 times a day in small portions, limiting the consumption of table salt to 3 g / day (AG), Metformin from 500 mg / day, gradually increasing the dose to 2000 mg / day (to reduce insulin resistance, reduce hyperglycemia by increasing the sensitivity of cells to endogenous insulin, improving the lipid spectrum of blood, reducing body weight); statins (for hypercholesterolemia), ACE inhibitors (antihypertensive drugs).

4. Medical and labor expertise. Dispensary observation. Indications for referral to the bureau of the medical and social expert commission.

1) severe form of diabetes mellitus, pronounced manifestations of microangiopathy with significant dysfunction of organs and systems;

2) labile flow (frequent hypoglycemic conditions, ketoacidosis) or difficult to compensate diabetes mellitus of moderate severity;

3) diabetes of mild to moderate severity with the need for rational employment with reduced qualifications or a decrease in the amount of work performed.

Disability criteria.

I group of disability is established in patients with severe diabetes mellitus with the presence of significantly pronounced dysfunctions of the endocrine and other systems: retinopathy (blindness in both eyes),

neuropathy (persistent paralysis,ataxia), diabetic encephalopathy with severe mental disorders; diabetic cardiomyopathy (HF III degree); severe angiopathy of the lower extremities (gangrene, diabetic foot); terminal chronic renal failure; with frequent hypoglycemia and diabetic coma. The limitations of the ability to work activity of the III degree, self-service of the III degree, movement of the III degree, orientation II-III degree. Patients need constant outside help and care.

II group of disability is determined by patients with a severe form of sugar diabetes with severe dysfunctions of the affected systems and organs: retinopathy II-III degree, nephrotic syndrome, initial chronic renal failure, terminal CRF with adequate dialysis or successful kidney transplant, neuropathy II degree (severe paresis), encephalopathy with persistent mental changes, which lead to a limitation of the ability to work II-III degree, ability to move and self-service II degree.

III group of disability is determined by patients with mild and moderate severity of diabetes mellitus or its labile course with moderate dysfunctions of organs and systems that lead to limitation ability to self-service, work activity I degree, if at work the patient in the main profession has contraindicated factors, and rational employment leads to a decrease in qualifications or significant decrease in the volume of production activities.

Dispanserisation.

Complete blood count, general urine analysis - once a year, check for microalbuminuria - once a year, biochemical blood test - total protein, ALT, AST, lipid profile, creatinine, urea, bilirubin, potassium, sodium - once a year, GFR - 1 time per year, ECG - 1 time per year, study of glycated hemoglobin - 1 time per 3 months, examination of legs and sensitivity assessment - 1 time per year, blood pressure measurement - at each visit to the doctor , at home, keeping a self-control diary for the correction of therapy.

Clinical case No. 6

1. What is the preliminary diagnosis?

Primary hyperaldosteronism.

2. What additional tests would you recommend to the patient, and what are the expected results?

Laboratory diagnostics of hyperaldosteronism involves carrying out:

biochemical blood test;

general urine analysis

PCR tests - for diagnosing the familial form of the disease;

tests with spironolactone and hypothiazide load;

The most valuable are the following instrumental examinations:

- ultrasound examination (safe and informative method to detect adenomas 1-2 cm in size);
- computed tomography (have greater sensitivity and make it possible to examine the organ in more detail);
- scintigraphy (based on the ability of gland tissues to accumulate a radiopharmaceutical and helps to distinguish tumor from hyperplasia).
- In addition to basic diagnostics, the patient should be seen by an ophthalmologist, nephrologist, and cardiologist.

3. What is the patient's management? Treatment of patients with aldosteronoma consists in carrying out a radical removal of the tumor together with the affected adrenal gland - adrenalectomy.

In the preoperative period (within 7-10 days), a diet with limited sodium content, potassium (potassium chloride) preparations and aldosterone antagonists - spironolactone are prescribed. To prevent the development of acute adrenal cortex insufficiency due to surgical intervention for aldosteronoma, glucocorticosteroid therapy (cortisone, hydrocortisone) is indicated. After the operation, it is necessary to monitor the level of electrolytes and ECG indicators.

Removal of aldosteronoma in 50–70% of cases contributes to the normalization or significant decrease in blood pressure; if moderate hypertension persists, corrective conservative therapy is performed. With benign aldosteronoma and the absence of irreversible changes in the kidneys, the prognosis is favorable. Malignant aldosteronoma have an unfavorable course and prognosis.

4. Medical and labor expertise. Dispensary observation. The first group of disability is established with a pronounced limitation of life activity, leading to a pronounced social maladjustment due to the impossibility of learning, communication, orientation, control over one's behavior, movement, self-service, participation in labor activities, if these disorders cause the need for constant care or assistance.

Disability group 1 is defined in a severe form of the disease with pronounced hypotension, adynamia.

2 group of disability is determined with significantly pronounced disabilities leading to social maladjustment due to the same reasons as in the first group, but while maintaining the ability to self-service, severe endocrine hypothalamic-pituitary syndromes, with sharply and significantly expressed endocrine disorders or the development of visceral.

Group 3 disability is determined in the presence of moderate or mild endocrine disorders that restrict life activity and reduce the possibilities of social adaptation due to pronounced difficulty in learning, communication, movement, as well as labor activity (reduced qualifications or volume of work, difficulty in performing professional work due to anatomical defects).

Prevention: recommendations for a healthy lifestyle. Hardening procedures. Remediation of foci of chronic infection.

- Do not add enough salt to food
- xercise regularly
- Avoid alcohol or drink the appropriate drinks in moderation:
- For men, no more than 2 alcoholic drinks per day
- For women, no more than 1 alcoholic drink per day
- Do not drink caffeine
- Lose excess weight
- Quit smoking • Avoid secondhand smoke
- Use all prescribed drugs as directed:
- Do not skip taking medications. This action significantly reduces the effectiveness of drugs.
- Be aware of the possible side effects of your treatment.

Clinical case No. 7

1. What is the preliminary diagnosis? Metabolic syndrome. Obesity 1 degree(BMI 32.6). Dyslipidemia. Hyperglycemia. High risk of CVD

Metabolic syndrome - the patient has a combination of factors that contribute to the development of cardiovascular diseases. The patient has signs of obesity (BMI 32.8 kg / m2) in combination with disorders of carbohydrate (fasting plasma glucose -6.2 mmol / L and fat metabolism (total cholesterol - 5.8 mmol / L, TG - 4.1 mmol / L, HDL cholesterol - 0.9 mmol / l). There is also a burdened heredity for cardiovascular diseases (in the mother of hypertension and cerebrovascular accidents), inadequate nutrition (excess content in the diet of fats and carbohydrates), low physical activity (sedentary lifestyle,), abuse smoking for 30 years (1.5 packs of cigarettes per day), alcohol consumption - 100 ml of strong drinks per week.

2. What additional tests would you recommend to the patient, and what are the expected results?

To identify preclinical atherosclerosis, it is necessary to study the thickness of the intima of the carotid, brachiocephalic (coronary) arteries - duplex scanning; to exclude hypertension - daily monitoring of blood pressure (holter), consultation with an ophthalmologist, ECG, ECHO-KG and consultation with a cardiologist; endocrinologist consultation - correction of weight, carbohydrate metabolism, insulin resistance.

3. What is the patient's management? Non-drug treatment to reduce the risk of death from CVD in the next 10 years to carry out in order to eliminate the risks: - smoking cessation - 50% success; - refusal to consume strong alcoholic beverages (12 ml = 70 kcal); - weight loss (BMI 25 kg / m2; waist circumference < 102 cm); overweight, abdominal obesity contribute to dyslipidemia; - regular physical activity (intense physical activity 30-60 minutes 5-7 days / week), decrease in TG and increase HDL-C; - cardiospecific balanced diet

(salt < 5-6 g / day., restriction of carbohydrates and fats, an increase in dietary fiber.

4. Medical and labor expertise. Dispensary observation. The first group of disability is established with a pronounced limitation of life activity, leading to a pronounced social maladjustment due to the impossibility of learning, communication, orientation, control over one's behavior, movement, self-service, participation in labor activities, if these disorders cause the need for constant care or assistance.

1 group of disability is defined in a severe form of the disease with pronounced hypotension, adynamia.

2 group of disability is determined with significantly pronounced disabilities leading to social maladjustment due to the same reasons as in the first group, but while maintaining the ability to self-service, severe endocrine hypothalamic-pituitary syndromes, with acute and significantly expressed endocrine disorders or the development of visceral.

3 group disability is determined in the presence of moderate or mild endocrine disorders that restrict life activity and reduce the possibilities of social adaptation due to pronounced difficulty in learning, communication, movement, as well as labor activity (reduced qualifications or volume of work, difficulty in performing professional work due to anatomical defects).

Dispanserisation. The work of a doctor with a motivated outpatient patient to eliminate risk factors can be carried out according to an individual schedule of visits during the anti-smoking period or at least 2 times a year and 1 time a year by a cardiologist with control of lipids, carbohydrates, weight, waist circumference, blood pressure, ECG, etc. others as needed; it is possible to connect drugs, weight correction, lipids, carbohydrates, dietary recommendations.

Prevention: recommendations for a healthy lifestyle. Remediation of foci of chronic infection. Vaccination.

Clinical case No. 8

1. What is the preliminary diagnosis?

Chronic autoimmune thyroiditis, atrophic form. Manifest hypothyroidism. Secondary amenorrhea.

2. What additional tests would you recommend to the patient, and what are the expected results?

Lipid profile (against the background of hypothyroidism, an increase in cholesterol is possible); ECG - assessment of rhythm and conduction, bradycardia is characteristic of hypothyroidism; Echo-KG - assessment of the state of the heart, EF, cardiac cavities, exclusion of hydro pericardium in hypothyroidism; Serum iron and ferritin test - IDA diagnostics; prolactin, foliculo-stimulating hormone, estradiol, progesterone - impaired production in primary hypothyroidism, confirmation of hyperprolactinemia hypogonadism; Ultrasound of the small pelvis - polycystic ovary disease is possible, excluding the primary nature of amenorrhea; MRI of the pituitary gland (exclusion of the syndrome of "empty Turkish saddle").

3. What is the patient's management? Hormone replacement therapy - Levothyroxine 1.6 mcg / kg body weight, starting from 50 mcg with a subsequent increase in the dose to a constant maintenance dose for 1 month. The goal is a TSH level of 0.5-1.5 μIU / ml. Iron preparations for the treatment of anemia: normalization of hemoglobin levels. There is no etiological treatment for AIT.

4. Medical and labor expertise. Dispensary observation.

The first group of disability is established with a pronounced limitation of life activity, leading to a pronounced social maladjustment due to the impossibility of learning, communication, orientation, control over one's behavior, movement, self-service, participation in labor activities, if these disorders cause the need for constant care or assistance.

1 group of disability is defined in a severe form of the disease with pronounced hypotension, adynamia.

2 group of disability is determined with significantly pronounced disabilities leading to social maladjustment due to the same reasons as in the first group, but while maintaining the ability to self-service, with sharply and significantly pronounced endocrine disorders or the development of visceral, other disorders.

3 group disability is determined in the presence of moderate or mild endocrine disorders that restrict life activity and reduce the possibilities of social adaptation due to pronounced difficulty in learning, communication, movement, as well as labor activity (reduced qualifications or volume of work, difficulty in performing professional work due to anatomical defects).

Dispanserisation. Patients with acromegaly are subject to medical examination for life. They are examined by an endocrinologist, neuropathologist, ophthalmologist 4 times a year. 2 times a year, the skull is radiographed, the content of somatotropin and glucose in the blood is determined 4 times a year. If necessary, treatment with parlodel, symptomatic agents, continues. Favorable prognosis with regular administration of thyroid hormones, with refusal of it - the development of CHD, heart failure, hydropericardium, cognitive impairment, hypothyroid coma. Over time, evaluate CBC, glandular complex (assessment of anemia correction), TSH, free T4 during therapy after a month, while normalizing TSH - first 1 times every 6 months, then 1 times a year.

Clinical case No. 9

1. What is the preliminary diagnosis?

Cushing's syndrome.

2. What additional tests would you recommend to the patient, and what are the expected results?

1. Group of screening tests finding out the volume of daily extraction of cortisol in the urine; small dexamethasone test: double

determination of the level of cortisol in the blood (before and after taking dexamethasone). If the indicator rises or remains the same, this may serve as a confirmation of Cushing's syndrome.; large dexamethasone test: it differs from the small one only in the dosage of the drug.

2. Instrumental research an X-ray of the spine will reveal a possible compression fracture;

MRI or CT of the adrenal glands.

3. Laboratory tests and possible signs of Cushing's syndrome.

- General blood analysis: erythrocytosis (increase in the level of red blood cells) and absolute lymphopenia.
- Biochemical blood test: hyperglycemia (increase in serum glucose concentration), hypokalemia (decrease in potassium levels), hypernatremia (increased sodium content); biochemical analysis of urine: an increase in the concentration of potassium and calcium; analysis for thyroid-stimulating hormone (a decrease in its level is 100% a sign of Cushing's Syndrome); analysis for cortisol (with Cushing's syndrome, the indicator is increased).
- Blood test for HbA1c (glycosylated hemoglobin): with Cushing's syndrome, an increase in concentration is observed.
- Blood glucose test: the concentration of glucose with Cushing's syndrome can be increased;
- Blood test for osteocalcin (with Cushing's syndrome, the level of this natural marker of osteoporosis is lowered).

3. What is the patient's management?

1. Surgical methods.

Selective transsphenoidal adenomectomy (removal of a pituitary tumor). With a clear localization of the neoplasm (confirmation of CT or MRI studies is required), the operation provides a stable remission in 70-80% of cases;

Destruction of the adrenal glands: the introduction of special sclerosing substances under the mandatory control of ultrasound or MRI (such treatment is auxiliary);

Proton therapy (directed irradiation of a pituitary tumor with protons) together with unilateral adrenalectomy (removal of one of the adrenal glands).

2. Drug treatment.

Drugs that block the synthesis of adrenocorticotropic hormone.

Blockers of corticosteroid synthesis.

Destructors of cortical cells.

3. Medicines used in symptomatic therapy.

- Cushing's syndrome treatment with antihypertensive drugs (spironolactone, ACE inhibitors);
- hypoglycemic therapy (if the diagnosis has revealed signs of excess glucose);
- sedatives and antidepressants;
- agents that reduce bone resorption (calcitonin);
- bisphosphonates;
- anabolic steroid.

4. Medical and labor expertise. Dispensary observation.

Disability group 1 is defined in a severe form of the disease with pronounced hypotension, adynamia with a pronounced limitation of life, leading to a pronounced social maladjustment due to the impossibility of learning, communication, orientation, control over one's behavior, movement, self-service, participation in labor activities, if these violations cause the need for constant care or assistance.

2 group of disability is determined with significantly pronounced disabilities leading to social maladjustment due to the same reasons as in the first group, but while maintaining the ability to self-service, severe endocrine hypothalamic-pituitary syndromes, with sharply and significantly expressed endocrine disorders or the development of visceral and other disorders.

Group 3 disability is determined in the presence of moderate or mild endocrine disorders that restrict life activity and reduce the possibilities of social adaptation due to pronounced difficulty in learning, communication, movement, as well as labor activity (reduced

qualifications or volume of work, difficulty in performing professional work due to anatomical defects).

Dispanserisation. Patients with Cushing's syndrome are subject to medical examination for life. They are examined by an endocrinologist, neurologist, ophthalmologist 4 times a year. X-ray of the skull is performed 2 times a year, the content of somatotropin and glucose in the blood is determined 4 times a year. If necessary, treatment continues with symptomatic means.

Clinical case No. 10

1. What is the preliminary diagnosis?

Acute adrenal insufficiency associated with Addison's disease.

2. What additional tests would you recommend to the patient, and what are the expected results?

3. What is the patient's management?

Treatment of the disease that caused decompensation. In acute adrenal insufficiency, hydrocortisone preparations are preferred (Hydrocortisone hemi succinate can be administered intravenously and intramuscularly. Hydrocortisone acetate suspension is administered only intramuscularly). Begin with the appointment of 100-150 mg of hydrocortisone hemi succinate intravenously. The same amount of the drug is dissolved in 500 mg of isotonic sodium chloride solution and 5% glucose solution and injected intravenously over 3-4 hours at a rate of 40-100 drops per minute. Simultaneously with the intravenous administration of water-soluble hydrocortisone, intramuscular administration of Hydrocortisone 50-75 mg every 4-6 hours is performed. The dose depends on the severity of the condition and the results of increased blood pressure, normalization of electrolyte disturbances. During the first day, the total dose of hydrocortisone is 400-600 mg, less often 800-1000, sometimes more. Intravenous administration of Hydrocortisone is continued until the collapse is cleared and the blood pressure rises above 100 mm Hg. and continue its intramuscular administration 4-6 times a day at a dose of 50-75 mg with

a gradual decrease in the dose to 25-50 mg and an increase in the intervals of administration 2-4 times a day for 5-7 days. Then the patients are transferred to oral treatment with Prednisolone 10-20 mg per day (hydrocortisone 30-40 mg per day), combined with the appointment of hydrocortisone 0.1-0.2 mg per day or cortisone acetate 25-50 mg per day. Along with the introduction of glucocorticoids, they fight dehydration and shock phenomena. Isotonic sodium chloride solution is poured in a volume of 2-3 liters per day. Due to the danger of hypoglycemia, at least 1 liter of 5-10% glucose solution is transfused. Transfusion of potassium-containing solutions is categorically contraindicated. Etiological treatment aimed at eliminating the cause of acute adrenal insufficiency (antibiotic therapy).

4. Medical and labor expertise. Dispensary observation.

Disability group 1 is defined in a severe form of the disease with pronounced hypotension, adynamic with a pronounced limitation of life activity, leading to a pronounced social maladjustment due to the impossibility of learning, communication, orientation, control over one's behavior, movement, self-service, participation in labor activities, if these disorders cause the need for constant care or assistance.

2 group of disability is determined with significantly pronounced disabilities leading to social maladjustment due to the same reasons as in the first group, but while maintaining the ability to self-service, severe endocrine hypothalamic-pituitary syndromes, with sharply and significantly expressed endocrine disorders or the development of visceral and other disorders.

Group 3 disability is determined in the presence of moderate or mild endocrine disorders that restrict life activity and reduce the possibilities of social adaptation due to pronounced difficulty in learning, communication, movement, as well as labor activity (reduced qualifications or volume of work, difficulty in performing professional work due to anatomical defects).

Prevention. The leading preventive measures to prevent the development of acute adrenal insufficiency are: motivation of the patient for regular and constant intake of corticosteroid drugs, under

no circumstances can the drug be canceled. Timely recognition and treatment of initial or subacute adrenal insufficiency is essential to prevent the progression of the crisis. The development of precursors of a crisis or acute hypocorticism can be prevented in patients with chronic hypocorticism during large and small surgical interventions of infectious processes, during pregnancy, childbirth. For prophylactic purposes, intravenous administration of glucocorticoids and deoxycorticosterone acetate preparations is prescribed in smaller doses than with an Addison crisis. The day before the operation, hydrocortisone is injected intramuscularly at 25-50 mg 2-4 times a day, deoxycorticosterone acetate – 5 mg / day. On the day of surgery, the dose of the drug is increased by 2-3 times. During surgery, hydrocortisone is administered - 100-150 mg intravenously and 50 mg intramuscularly every 4-6 hours for 1-2 days. Intravenous administration of hydrocortisone continues after surgery for 2-3 days. Then they are gradually transferred to replacement therapy with tablets of prednisolone, cortisone and deoxycorticosterone. At first, the dose exceeds the usual one, the duration depends on the general condition of the patient. When the severity of the operational stress is eliminated, it is transferred to the doses of drugs used before the operation.

Chapter 13. HEMATOLOGY SECTION

Clinical case No. 1

Patient N, 32 years old, a designer, turned to the family doctor at the polyclinic with complaints of an increase in body temperature up to 39.4 ° C, a feeling of chills, general weakness, lethargy, sweating, as well as the appearance of bleeding gums, the appearance of "bruises" on the skin for no apparent reason. Considers himself sick for 8 days, after physical overload, there was an increase in temperature. I took paracetamol, aspirin, ibufen with a short-term effect. Weakness began to grow progressively, bleeding and bruising appeared.

From the anamnesis of life: he denies the presence of chronic diseases. Heredity is not burdened. Has a higher education. Goes in for sports: running, swimming, cycling.

On objective examination: a state of moderate severity. Body temperature 37.7 ° C. The skin is pale, high humidity. On the skin of the lower extremities - ecchymosis; petechiae on the skin of the shoulders, forearms; in the oral cavity - single petechial elements. On auscultation, vesicular breathing, no wheezing. BR - 19 per minute. The heart sounds are muffled, the rhythm is regular. Heart rate - 92 beats per minute. BP - 100/65 mm Hg. Art. The abdomen is soft and painless on palpation. The edge of the liver is palpable 1 cm below the edge of the costal arch, dimensions according to Kurlov - 16 × 10 × 9 cm. The spleen is palpable, elastic, painless, percussion dimensions 10 × 8 cm.

Complete Blood Count: RBC – $2{,}3x10^{12}$/L, Hb –136 g/L, MCH – 27 pg/cell, WBC – $28{,}9x10^{9}$/L, blasts - 32%, myelocytes - 0%, young neutrophils - 0%, neutrophils bands – 5%, neutrophils segments – 38%, lymphocytes – 25%, monocytes – 8%, eosinophil – 1%, PLT – $30{,}0x10^{9}$/L, ESR – 30 mm/h.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 2

Patient N, 73 years old, a notary, went to the polyclinic to see a family doctor with complaints of muscle weakness, increased fatigue, desire to sleep, a feeling of heaviness in the left hypochondrium, a decrease in body weight by 7 kg over the last month.

History: arterial hypertension, duodenal ulcer. In childhood, I was allergic to red food, allergic to metals like atopic dermatitis, seasonal allergic rhinitis. From the anamnesis it is known that at the age of 42, when the first symptoms of the disease appeared, he was undergoing inpatient treatment in the hematology department with a diagnosis of "Acute leukemia. Primary attack ".

On objective examination. On examination, attention is drawn to the increase in lymph nodes in the anterior surface of the neck, in the supraclavicular and axillary cavities. The lymph nodes are painless, relaxed, mobile, and have an elastic consistency. The spleen is enlarged (+6 cm).

Complete Blood Count: RBC – $2{,}2 \times 10^{12}$/L, Hb –97 g/L, WBC – 31×10^{9}/L, neutrophils bands – 6%, neutrophils segments – 67%, lymphocytes – 50%, monocytes – 8%, eosinophil – 4%, PLT – $130{,}0 \times 10^{9}$/L, ESR – 16 mm/h. Gumprecht's shadows are determined.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 3

Patient N, 48 years old, a web developer, complains of weakness, lethargy, rapid fatigue, shortness of breath and palpitations with little physical exertion, pallor of the skin, brittle nails, heavy menstruation.

From the anamnesis it is known that about 8 months ago, a gynecologist revealed a small uterine myoma, requiring only observation, while the patient's menstruation became abundant. The rest of the above complaints appeared 4 months ago with a slow increase; noted an addiction to strong odors (gasoline, varnish, acetone), desire to eat earth, walls, chalk; dizziness occasionally bothered. The patient was not a donor. During three pregnancies and childbirth, mild anemia was noted, which subsided in the postpartum period.

On objective examination: satisfactory condition, average nutrition. The skin and mucous membranes are moderately pale, there are shallow cracks in the corners of the mouth, the nails are brittle, with a pronounced longitudinal striation and emerging concavity. In the lungs, vesicular breathing, no wheezing. Heart sounds are slightly muffled, rhythmic, systolic murmur is heard, conducted to the vessels, heart rate is 78 beats per minute, blood pressure is 100/65 mm Hg. The abdomen is soft, painless on palpation in all parts. The liver and spleen are not palpable. Stool, urine output were unremarkable.

Complete Blood Count: RBC – $2,9x10^{12}$/L, Hb –68 g/L, MCH – 20 pg/cell, WBC – $3,8x10^{9}$/L, anisocytosis ++, poikilocytosis ++, microcytosis ++; neutrophils bands – 1%, neutrophils segments – 54%, lymphocytes – 33%, monocytes – 6%, eosinophil – 5%, basophils - 1%, PLT – $200,0x10^{9}$/L, ESR – 15 mm/h.

General urine analysis is within normal limits.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 4

Patient N, 23 years old, a photographer, went to the clinic for an appointment with a family doctor with complaints of weight loss, rapid fatigue, fever up to subfebrile numbers, a tendency to subcutaneous hemorrhage, severe pain in the oral cavity and pharynx. Due to pain when swallowing, it is difficult to eat and drink. Notes the lack of taste in food, although the appetite is preserved. The patient considers himself within two weeks after receiving the procedures from the beautician, where the patient was cleansed and applied a moisturizing mask.

On objective examination: there are multiple small subcutaneous hemorrhages on the limbs. The mucous membranes of the mouth and pharynx are hyperemic, bleed when touched, ulceration on the gums, the tongue is coated, purulent plaque on the tonsils. Temperature 38.3 ° C. Pulse 88 beats. per min., BP 120/80 mm Hg., respiratory rate 20 per min.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 5

Patient N, 67 years old, a clergyman, turned to a family doctor at the polyclinic with complaints of general weakness, poor appetite, difficulty swallowing, shortness of breath with little physical exertion: walking around the room, squatting. And also there were edema of the legs, constant, slightly increasing in the evening.

Anamnesis of the disease: he considers himself ill about five months ago, when, after a trip to the mountains, the above complaints began to appear. The polyclinic doctor, finding yellowness and pallor

of the skin, an enlarged liver, sent the patient to an infectious diseases hospital for specialist advice.

On objective examination: the patient's condition is severe, significant pallor and moderate icterus of the skin and mucous membranes, pronounced puffiness of the face, edema of the legs. Consciousness is clear, speech is slowed down. The lymph nodes are not enlarged. There is a small amount of wet rales in the lower parts of the lungs. The heart is enlarged by 2 cm to the left of the left midclavicular line. Muffled heart sounds, systolic murmur over all points. Pulse - 109 in 1 min, rhythm is regular. BP - 90/60 mm Hg. Art. The tongue is bright red, smooth, with cracks. The liver protrudes 4 cm from the edge of the costal arch, sensitive to palpation. The edge of the spleen is palpated. Neurological status: distal hyperesthesia, increased deep tendon reflexes, decreased muscle strength of the lower extremities.

ECG data: sinus rhythm, right bundle branch block. Negative T wave in V4-V6 leads.

Complete Blood Count: RBC – $1,0x10^{12}$/L, Hb –40 g/L, WBC – $3,6x10^{9}$/L, neutrophils bands – 5%, neutrophils segments – 48%, lymphocytes – 31%, monocytes – 4%, eosinophil – 2%, PLT – $150,0x10^{9}$/L, anisocytosis (macrocytosis), poikilocytosis, megalocytes, Jolly bodies , Cabot's rings. ESR – 23 mm/h.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 6

Patient N, 68 years old, a manager, went to the polyclinic for an appointment with a family doctor with complaints of general weakness, lethargy, palpitations, shortness of breath on exertion, nausea, belching, heaviness and discomfort in the epigastric region. Signs of

gastric dyspepsia for about 13 years, was treated with folk methods, herbs, did not go to doctors. In the last six months, weakness, palpitations, lack of air during exertion, numbness of the lower extremities appeared.

On objective examination: general condition of moderate severity. The skin is pale, slight yellowness of the skin and lemon-colored sclera. The face is puffy. Height - 160 cm, body weight - 68 kg. Vesicular respiration in the lungs. The borders of the heart are displaced to the left by 1 cm, the tones are slightly muffled, heart rate - 90 per minute, blood pressure - 130/80 mm Hg. Art. The tongue is crimson, the papillae are smoothed. The abdomen is soft and painless. The liver protrudes 1 cm from under the costal margin, the spleen is not enlarged.

Complete Blood Count: RBC – $2,9x10^{12}$/L, Hb –75 g/L, WBC – $6,0x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 67%, lymphocytes – 20%, monocytes – 8%, eosinophil – 1%, PLT – $214,0x10^{9}$/L, Jolly's bodies and Kebot's rings, ESR – 30 mm/h.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 7

Patient N, 37 years old, a city farmer, at the reception with a family doctor complains of weakness, dizziness, the appearance for no apparent reason of nose and gingival bleeding, bruises on the skin of the extremities, up to 1.5 cm in size. Considers himself sick for 5 months, after the patient went to the lake in the mountains. However, upon careful questioning, it was found out that 3-4 months ago she had a severe viral infection.

On objective examination. When contacting the clinic, a state of moderate severity. Severe pallor of the skin and mucous membranes. On the skin of the legs, ecchymosis up to 1, 5 - 2 cm in diameter was found, as well as petechial eruptions of varying degrees of maturity. When examining the oral cavity - petechial rashes on the mucous membrane of the tongue, cheeks. The tonsils are not enlarged. The circulatory system - the boundaries of the relative dullness of the heart are shifted to the left. On auscultation -1 tone at the apex is weakened, systolic murmur is heard not associated with I tone, without a conduction beam. Heart rate - 96 beats per minute. BP - 80/60 mm Hg. Art. On the part of the respiratory system, gastrointestinal tract, urinary system without features. The liver and spleen were not palpable.

Complete Blood Count: RBC – $1,4x10^{12}$/L, Hb –54 g/L, MCH – 27 pg/cell, WBC – $2,1x10^{9}$/L, neutrophils bands – 2%, neutrophils segments – 35%, lymphocytes – 55%, monocytes – 9%, reticulocytes - 20%, eosinophil – 1%, PLT – $22,0x10^{9}$/L, ESR – 42 mm/h.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 8

Patient N, 29 years old, a flight attendant, complains to a family doctor in a polyclinic about general weakness, dizziness, shortness of breath, brittle nails, flashing of flies before her eyes, desire to eat earth, clay, sand. From the anamnesis it is known that there is a chronic disease: duodenal ulcer from the age of 15. Menses for 7 days, profuse, painful on the first day. Heredity is not burdened. Married, pregnancies, childbirth was not.

On objective examination, the skin and mucous membranes are pale. The boundaries of the heart are not displaced, the tones are

muffled. In the lungs, vesicular breathing, no wheezing. The liver and spleen are not enlarged.

Complete Blood Count: RBC – 2,6x10^{12}/L, Hb –60 g/L, MCH – 17 pg/cell, WBC – 5,1x10^{9}/L, neutrophils bands – 5%, neutrophils segments – 57%, lymphocytes – 28%, monocytes – 8%, eosinophil – 2%, PLT – 210,0x10^{9}/L, ESR – 15 mm/h. Serum iron - 6 μmol.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 9

Patient N, 27 years old, a trend watcher, complained of severe weakness, fever up to 38.3 ° C, dizziness. He considers himself sick from a fishing trip, which was two weeks ago, where, according to the words, he could be hypothermic. 8 days ago I turned to my family doctor, where I was diagnosed with acute pharyngitis. However, the condition continued to deteriorate despite the ongoing therapy.

On objective examination: the patient's condition is moderate. the skin and mucous membranes are pale, the submandibular cervical lymph nodes are enlarged, painless. In the lungs, vesicular breathing, no wheezing. The heart sounds are muffled, the rhythm is correct. The abdomen is soft and painless. The liver is palpable at the edge of the costal arch, the spleen protrudes 2 cm, painless.

Complete Blood Count: RBC – 2,5x10^{12}/L, Hb –79 g/L, WBC – 6,1x10^{9}/L, neutrophils bands – 5%, neutrophils segments – 67%, lymphocytes – 10%, monocytes – 8%, eosinophil – 1%, PLT – 100,0x10^{9}/L, blasts-85%, ESR – 11 mm/h.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Clinical case No. 10

Patient N, 23 years old, a guide, complains of lethargy, dizziness with a sudden change in position, increased fatigue, bouts of severe pain in the right hypochondrium, especially during intense physical exertion. From the anamnesis it is known that from the age of 10 the patient notes intermittent yellowness of the skin, alternating with pallor, while the attacks were accompanied by severe weakness. In the last 5 years, the patient began to worry about paroxysmal pain in the right hypochondrium, accompanied by jaundice. Smokes since 17 years.

On objective examination: satisfactory condition, clear consciousness. The skin and visible mucous membranes are icteric against a generally pale background, the sclera are icteric. Peripheral lymph nodes are not enlarged. In the lungs, breathing is carried out over all fields, there are no wheezing. NPV - 17 per min. Rhythmic heart sounds, a blowing systolic murmur is heard at the apex of the heart. Heart rate - 84 beats per minute. The liver on palpation is of a normal consistency, painful, the edge is rounded, protrudes 2.5 cm from under the edge of the costal arch. Dimensions according to Kurlov - 12 × 10 × 9 cm. The spleen protrudes 3 cm below the left costal arch. On superficial palpation, the abdomen is soft, painless.

Complete Blood Count: RBC – $3{,}2 \times 10^{12}$/L, Hb –92 g/L, MCH – 22 pg/cell, WBC – 12×10^{9}/L, neutrophils bands – 11%, neutrophils segments – 59%, lymphocytes – 30%, monocytes – 10%, eosinophil – 1%, PLT – $214{,}0 \times 10^{9}$/L, ESR – 20 mm/h.

Osmotic resistance of erythrocytes (ORE) - 0.78-0.56% (normal minimum ORE - 0.44-0.48%, max. ORE - 0.28-0.36%). Biochemical

blood test: bilirubin - 111.2 μmol / L, direct - 17.1 μmol / L, indirect - 94.1 μmol / L. Coombs' test is negative.

Questions:

1. What is the preliminary diagnosis?
2. What additional tests would you recommend to the patient, and what are the expected results?
3. What is the patient's management?
4. Medical and labor expertise. Dispensary observation

Chapter 14. STANDARD OF ANSWERS FOR THE HEMATOLOGY SECTION

Clinical case No. 1

1. What is the preliminary diagnosis?

Acute leukemia, debut. Hepatosplenomegaly. Moderate anemia. Thrombocytopenia. Hemorrhagic syndrome.

The diagnosis of acute leukemia was made on the basis of clinical data: hepatosplenomegaly, hemorrhagic, anemic syndromes, intoxication. The main diagnostic criteria are laboratory data: in the general blood test - leukocytosis (less often leukopenia), the presence of blast cells, a symptom of leukemic "failure", anemia (hemoglobin - 78 g / l corresponds to moderate severity) and thrombocytopenia. The main studies to clarify the diagnosis are: complete blood count (leukocytosis, presence of blasts, leukemic "failure", anemia, thrombocytopenia); sternal puncture (20% or more blast cells in the myelogram); cytochemical study and immunophenotyping of blasts (determination of the variant of leukemia), cytogenetic study of the bone marrow (determination of prognostically favorable and / or unfavorable cytogenetic defects); diagnostic lumbar puncture (to exclude neuroleukemia); Ultrasound of internal organs (in order to clarify the degree of leukemic infiltration of the liver and spleen).

2. What additional tests would you recommend to the patient, and what are the expected results?

- The bone marrow is punctured with a needle inserted into the bone cavity. Usually the chest is selected for biopsy. The study shows the presence of an acute or chronic process. The analysis can determine the cytogenetic and morphological type of the disease. This procedure checks the response of the affected cell to the chemotherapy drug.

➢ A myelogram reveals the ratio of abnormal cells to normal cells. The examination shows the degree of damage to the organism. In a healthy person, blast cells should not exceed 5%. The test material is represented by a bone marrow sample. During the procedure, lymphocytosis and the nature of atypical cells are detected. There are no megakaryocytes. This method is recognized as the most accurate for making a diagnosis.

➢ Cytochemical laboratory diagnostics is based on the determination of specific enzymes. The method is indispensable for determining acute forms of the disease and predicting their course.

➢ Immunophenotyping is performed to diagnose acute lymphocytic and myeloid leukemia. The tactics of treatment of these types of leukemia are different, so it is important to clarify the diagnosis.

➢ It is necessary to examine the cerebrospinal fluid (cerebrospinal fluid) to detect an increased number of cells (cytosis).

Instrumental methods. With the help of computed tomography, vascular damage and metastases in the lymph nodes are detected. The method is used for large-scale diagnostics of the body by means of layer-by-layer scanning. Chest X-ray is prescribed for characteristic symptoms of lung damage: regular coughing, sputum production with blood inclusions, chest pain. If the oncological process has affected the brain, magnetic resonance imaging is recommended. The disease is characterized by symptoms: blurred vision, numbness of the limbs, impaired memory and consciousness, dizziness and fainting. To detect abnormalities in the work of the heart muscle, an electrocardiogram and an echocardiogram are performed.

3. What is the patient's management?

To verify the diagnosis and treatment, hospitalization in the hematology department is indicated. Treatment includes cytostatic therapy: polychemotherapy is used according to standard programs, depending on the type of leukemia. The stages of treatment include: induction of remission, consolidation, maintenance therapy, prevention of neurogliomata. In acute lymphoblastic leukemia, Holzer's 8-week program is used, in acute myeloblastic leukemia - therapy according to the 7 +

3 protocol. The following drugs are used: Prednisolone, Vincristine, Rubomycin, Cytosar, Cyclophosphamide, 6-Mercaptopurine, Asparaginase, Etoposide. Concomitant therapy: to improve renal function, reduce the degree of hyperuricemia - Allopurinol, antiemetic therapy, hemostatic therapy (transfusion of platelet concentrates), replacement transfusion of erythrocyte-containing media. With a poor prognostic index in the remission phase of the disease, allogeneic bone marrow transplantation is indicated.

4. Medical and labor expertise. Dispensary observation.

Contraindicated types and working conditions: heavy and moderate physical labor, significant neuropsychic stress, unfavorable meteorological conditions, contact with industrial poisons, benzene, ionizing radiation.

Disability criteria.

III group of disability is determined in the presence of complete and stable remission, lasting at least a year after the completion of the specific therapy program, in connection with the limitations of the ability to work I Art. And the need to reduce the volume of labor or transfer to another job,

retraining of a non-contraindicated profession.

II group of disability is determined in the presence of complete and stable remission, lasting at least a year with the continuation of the specific therapy program, low rehabilitation potential due to age, the presence of persistent severe dysfunctions of other organs and systems as a result complications of the disease or cytostatic therapy, due to limitations ability to work II-III Art., Movement II Art., Self-service Art II. and teaching II Art. Shown work in specially created conditions.

I group of disability is determined for the primary referral to MSEC in primary active stage, even if remission is achieved, lasting less than a year and in case of relapse, which is associated with significantly pronounced disorders functions of the blood system and other systems caused by the disease and highly toxic therapy, as well as a poor prognosis.

Dispensary supervision is carried out by the hematologist of the specialized center and the family doctor of the polyclinic. The frequency of examinations by a family doctor in the period of remission is once every 2 weeks, by a hematologist once every 2 months, and other specialists according to indications. Considering that the patient receives maintenance cytostatic therapy almost all the time, blood tests should be performed at least once every 2 weeks. Biochemical studies are carried out 1 time in 3 months and if an exacerbation is suspected.

Clinical case No. 2

1. What is the preliminary diagnosis?

Chronic lymphocytic leukemia, relapse, stage A.

2. What additional tests would you recommend to the patient, and what are the expected results?

- Examination of bone marrow in chronic lymphocytic leukemia. Detection of more than 30% of lymphocytes in the myelogram (if the aspirate is not diluted with peripheral blood) and lymphoid infiltration of the bone marrow according to trepan biopsy are of diagnostic value. The nature of bone marrow infiltration has prognostic significance: nodular and interstitial lesions are more favorable than diffuse ones.
- Biochemical and immunological studies in chronic lymphocytic leukemia. In chronic lymphocytic leukemia, there are no pathognomonic changes in biochemical parameters. At the same time, an increase in the content of uric acid (with leukocytosis), total LDH (reflects the volume of the tumor mass and is an unfavorable prognostic sign), as well as hypogammaglobulinemia, correlating with the frequency of infectious complications, are characteristic.
- In the majority of patients, a decrease in the level of immunoglobulins G, M and A is found. The determination of the immunophenotype is extremely important for the diagnosis and differential diagnosis. Typical immunophenotype in B-cell CLL: CD5 +, CD19 +, CD20 +, CD22 ±, CD79a +, CD23 +, CD43 +, CDllct, CD10-, cyclin D1-. As a rule, FMC7 and CD79b are negative. When

performing immunophenotyping, it is recommended to evaluate the expression of CD38, ZAP-70 and CD52. Expression of CD38 and / or ZAP-70 correlates with the detection of "u-CLL" and is a poor prognostic sign. The CD52 marker is a "target" for treatment with a monoclonal anti-CD52 antibody (Campath-1).

➢ Cytogenetic and molecular genetic studies in chronic lymphocytic leukemia. In a routine cytogenetic study, changes in the karyotype are found in more than 50% of patients with CLL, with FISH analysis - in 80%. The most common abnormalities include trisomy 12 (20% of cases), deletion of chromosomes llq (20%), 13q and 14q (50%), 6q21 (5%), or 17p13 (locus p53 - 10% of cases). With changes in the karyotype, especially multiple changes, the prognosis of the disease worsens.

3. What is the patient's management?

There are several approaches to the treatment of chronic lymphocytic leukemia:

- Chemotherapy with chlorbutin was until recently the standard treatment for chronic lymphocytic leukemia. Currently, the use of a new group of drugs, the so-called purine analogs, of which Fludara is a representative, has been proven to be more effective.
- Effective methods of treating chronic lymphocytic leukemia include bioimmunotherapy using monoclonal antibodies. The introduction of these drugs allows you to selectively destroy tumor cells without damaging healthy tissues of the body.
- If the effectiveness of other treatments is unsatisfactory, high-dose chemotherapy with hematopoietic stem cell transplantation can be carried out.
- Radiation therapy is used as an adjunct treatment in the presence of a large tumor mass.
- "Removal of the spleen (splenectomy) is sometimes indicated when the organ is greatly enlarged.

4. Medical and labor expertise. Dispensary observation.

Indications for medical and social expertise.

- The need for rational employment of patients with chronic lymphocytic leukemia, stage 1;
- II, III, IV stages of the disease;
- transformation of chronic lymphocytic leukemia into a malignant form;
- progression of chronic lymphocytic leukemia or its complications.

The required minimum examination for medical and social expertise: blood test, platelets and reticulocytes, myelogram, Immunophenotyping of blood lymphocytes, total protein and fractions, chest x-ray, ultrasound of the abdominal organs, consultation with an ophthalmologist and neurologist, a hematologist's conclusion.

Disability criteria.

III group of disability is established for patients with I, II stages of the disease, in the absence of its progression, limitation of the ability to work, I st., with the aim of rational employment, retraining or reducing the amount of work performed.

II group of disability is established for patients with III-VI stage of the disease, requiring specific treatment, due to severe dysfunctions, limitation of the ability to self-service, independent movement of the 2nd degree, labor activity of the 2nd degree.

Labor is available only in specially created conditions.

Group I disability is established for patients with stage IV disease in the presence of severe anemia and thrombocytopenia, persistent severe infection and complications; with the rapid progression of the disease, transformation into a malignant form, limitation of the ability to self-service 3 tbsp., independent movement of 3 tbsp., and an unfavorable prognosis.

Dispensary observation. Patients with a confirmed diagnosis of CLL are under dynamic observation by a hematologist-oncologist. A blood test is performed every 1-3-6 months. If necessary, supportive cytostatic therapy is prescribed to contain leukemic aggression.

Prophylaxis

To date, there is no specific prophylaxis for chronic lymphocytic leukemia.

Treatment with herbs and other non-traditional folk methods is futile, and in some cases it is deadly for the patient.

Clinical case No. 3

1. What is the preliminary diagnosis? Chronic post hemorrhagic iron deficiency anemia of grade 3.

2. What additional tests would you recommend to the patient, and what are the expected results?

- Study of serum iron: the norm for men is 0.6–1.7 mg / l (13–30 μmol / l); the norm for women is 0.5–1.6 mg / l (12–25 μmol / l). With IDA, serum iron is reduced. Determination of serum ferritin is the most sensitive and specific laboratory sign of iron deficiency: the norm for men is 20–350 μg / l; the norm for women is 10–150 mcg / l. With IDA, a decrease in serum ferritin levels.
- Total serum iron-binding capacity (TIBC) reflects the degree of serum starvation. The norm is 30–85 μmol / l. With IDA, the value of the indicator increases. The latent iron-binding capacity of serum is on average 50.2 μmol. With IDA, the indicator increases. The last two tests are rarely used in clinical practice. The ratio of the iron index to the total iron-binding capacity of serum, expressed as a percentage, reflects the degree of saturation of transferrin with iron (the norm is 16-50%). The IDA is characterized by a decrease in this indicator. Desferal test (desferal complexone, which binds iron and excretes it in the urine). After intravenous administration of desferal in the urine, 0.8 to 1.2 mg of iron is normally excreted. With IDA - 0.2 mg and below.
- In the punctate of the bone marrow, as a rule, without significant changes: some irritation of the red sprout (with bleeding); a decrease in the number of sideroblasts; determining the cause of iron deficiency.

Instrumental research

According to indications, ECG, ultrasound of internal organs, EGDS / colonoscopy are performed.

3. What is the patient's management?

IDA treatment in women of reproductive age

1. Women of reproductive age with moderate (mild or moderate) IDA should receive iron supplements at the rate of 120 mg of elemental iron per day (60 mg x 2 times a day) for 3 months.

2. For women of reproductive age with severe IDA, iron preparations are prescribed at the rate of 180 mg of elemental iron per day (60 mg x 3 times a day) for 3 months.

3. Folic acid for women of reproductive age with IDA is prescribed in a dose of 0.4 mg daily for 3 months.

4. Iron preparations are best taken between meals, it is advisable to drink it with juice or boiled water. It is forbidden to drink tea, coffee.

5. Evaluation of adherence to therapy is carried out 14 days after the start of treatment.

6. 4 weeks after the initiation of IDA treatment, Hb should be re-determined. If there is a positive result on the prescribed treatment (any increase in Hb compared to the baseline level before the start of treatment), then the treatment should be continued for another 2 months. The general course of treatment with iron is 3 months, followed by a transition to a prophylactic regimen of weekly supplementation (see above).

7. In the absence of a positive result from the treatment (an increase in hemoglobin compared with the baseline values before the appointment of iron preparations), the doctor should determine the possible reasons for the lack of improvement: an insufficient dose of elemental iron, irregular intake or refusal to take iron supplements. If errors in treatment are excluded, the woman should be referred to a therapist or hematologist (in TB, OB) to clarify the form of anemia.

8. Women with severe anemia (Hb below 70 g / l) should be consulted by a physician or hematologist.

9. In severely emaciated women, anemia is often severe. However, oral iron therapy should not be started until the woman's appetite is restored and she begins to gain weight. If appetite or weight is not

normalized, the patient should be referred to a hematologist for further examination.

4. Medical and labor expertise. Dispensary observation.

Temporary disability is due to both the anemia itself and the disease that caused it. With a mild form of anemia (hemoglobin at least 90 g / l), work capacity is determined by the course of the underlying disease. Patients are usually able to work. With a moderate degree, temporary disability is approximately 14–18 days; in severe cases - 30–35 days. Contraindicated types and working conditions: hard physical labor; work associated with neuropsychic stress, insolation, exposure to various radiation sources, hematological poisons (lead, chlorine, etc.), general and local vibration, as well as staying at a height, servicing moving mechanisms.

Permanent disability

Disability of the III group is established by patients with IDA of moderate severity due to the limitation of the ability to work, self-service - I st.

Disability of group II is established in patients with IDA of severe course with the development of severe complications of the circulatory system, other organs, ineffectiveness of treatment, leading to a limitation of the ability to self-service, movement, learning, work - II Art. In some cases, patients can work in specially created conditions or at home.

Dispensary observation. Persons with latent iron deficiency are not subject to medical examination. All patients with IDA, as well as persons with risk factors for this pathology, must be registered with a family doctor at the polyclinic at the place of residence with the obligatory conduct of a general blood test at least 2 times a year and a study of the serum iron content. At the same time, dispensary observation is also carried out, taking into account the etiology of IDA, that is, the patient is registered at the dispensary for the disease that caused IDA.

Clinical case No. 4

1. What is the preliminary diagnosis?
Acute leukemia

2. What additional tests would you recommend to the patient, and what are the expected results?

- The bone marrow is punctured with a needle inserted into the bone cavity. Usually the chest is selected for biopsy. The study shows the presence of an acute or chronic process. The analysis can determine the cytogenetic and morphological type of the disease. This procedure checks the response of the affected cell to the chemotherapy drug.
- A myelogram reveals the ratio of abnormal cells to normal cells. The examination shows the degree of damage to the organism. In a healthy person, blast cells should not exceed 5%. The test material is represented by a bone marrow sample. During the procedure, lymphocytosis and the nature of atypical cells are detected. There are no megakaryocytes. This method is recognized as the most accurate for making a diagnosis.
- Cytochemical laboratory diagnostics is based on the determination of specific enzymes. The method is indispensable for determining acute forms of the disease and predicting their course.
- Immunophenotyping is performed to diagnose acute lymphocytic and myeloid leukemia. The tactics of treatment of these types of leukemia are different, so it is important to clarify the diagnosis.
- It is necessary to examine the cerebrospinal fluid (cerebrospinal fluid) to detect an increased number of cells (cytosis).

Instrumental methods. With the help of computed tomography, vascular damage and metastases in the lymph nodes are detected. The method is used for large-scale diagnostics of the body by means of layer-by-layer scanning. Chest X-ray is prescribed for characteristic symptoms of lung damage: regular coughing, sputum production with blood inclusions, chest pain. If the oncological process has affected the brain, magnetic resonance imaging is recommended. The disease is characterized by symptoms: blurred vision, numbness of the limbs,

impaired memory and consciousness, dizziness and fainting. To detect abnormalities in the work of the heart muscle, an electrocardiogram and an echocardiogram are performed.

3. What is the patient's management?

Depending on the type of leukemia, polychemotherapy courses are carried out (for acute myeloid leukemia - according to the 7 + 3 program - cytosar, rubomycin, for acute lymphoblastic leukemia - a two-phase eight-week scheme according to D. Hollzer.) Against the background of thromboconcentrate transfusions, antibiotic therapy

4. Medical and labor expertise. Dispensary observation.

III group of disability is established for patients with I, II stages of the disease, in the absence of its progression, limitation of the ability to work, I st., With the aim of rational employment, retraining or reducing the amount of work performed.

II group of disability is established for patients with III-VI stage of the disease, requiring specific treatment, due to severe dysfunctions, limitation of the ability to self-service, independent movement of the 2nd degree, labor activity of the 2nd degree. Labor is available only in specially created conditions.

Group I disability is established for patients with stage IV disease in the presence of severe anemia and thrombocytopenia, persistent severe infection and complications; with the rapid progression of the disease, transformation into a malignant form, limitation of the ability to self-service 3 tbsp., independent movement of 3 tbsp., and an unfavorable prognosis.

Dispensary observation. Patients with leukemia are observed by a local general practitioner 4 times a year (according to indications - more often), a hematologist advises 2 times a year, an oncologist - 3-4 times a year. Timely diagnosis of the disease, prescription of pathogenetic therapy, exclusion of risk factors, anti-relapse treatment. Social and labor rehabilitation includes training and retraining of patients with an accessible profession, the definition of a work recommendation, rational employment, and the preparation of an IPR.

Clinical case No. 5

1. What is the preliminary diagnosis?

Diagnosis "B-12 deficiency anemia, III degree. Funicular myelosis "is exposed on the basis of complaints (general weakness, poor appetite, difficulty in swallowing); the presence of syndromes of hepatosplenomegaly, jaundice, polyneuropathy; physical examination data (bright red, smooth, cracked tongue, hypotension (BP - 90/60), tachycardia (Ps - 109 per minute)); laboratory tests (erythrocytes - 1.0 × 1012 / l, hemoglobin - 40 g / l, MSM - 110 fL, color index - 1.2, ESR - 23 mm / h, anisocytosis (macrocytosis), poikilocytosis, megalocytes, Jolly bodies , Cabot rings). The diagnosis "B-12 induced myocardial dystrophy, CHF II B - IIIA, FC III-IV (according to NYHA), left ventricular hypertrophy, right bundle branch block" was made on the basis of complaints (shortness of breath with minimal physical exertion (getting out of bed, dressing) , swelling of the legs, constant, slightly increasing in the evening); examination data (the heart is enlarged by 2 cm to the left of the left midclavicular line, heart sounds are muffled, systolic non-coarse murmur over all points); data of instrumental studies (sinus rhythm, right bundle branch block, negative T wave in leads V4-V6).

2. What additional tests would you recommend to the patient, and what are the expected results?

In the analysis of blood - severe anemia (decrease in hemoglobin to 25–40 g / l); hyper chromia - increased color index (more than 1.1); MCV over 100 fl; MCH more than 35 pg per cell; the number of leukocytes, platelets is moderately reduced; relative lymphocytosis; hyper segmentation of neutrophils (detection of more than 5% of neutrophils with 5 segments or any number of neutrophils with 6 or more segments); marked anisocytosis and poikilocytosis are noted: macro ovalocytes are characteristic (usually found only with megaloblastic anemia, as an exception - with myelodysplasia), schizocytes, polychromatophilia, Kebot's rings, Jolly's bodies, normoblasts.

The final confirmation of the diagnosis is a sharp decrease in the level of vitamin B12 in blood serum to 117 ± 22 pg / ml (norm 300-900 pg / ml) and erythrocytes to 13.9 ± 3.3 pg (norm 80-300 pg). It is possible to increase the level of indirect bilirubin and the activity of lactate dehydrogenase (LDH) in the blood serum as a result of intramedullary hemolysis of erythrocytes.

If it is difficult to determine the level of vitamin B12, the traditional morphological diagnostic criterion is used - the study of bone marrow hematopoiesis.

Instrumental studies: in the punctate of the bone marrow, a megaloblastic type of hematopoiesis is observed (the ratio of white and red blood sprout is 1: 1 or 1: 2, megaloblasts are determined); trepan biopsy (according to indications) is performed before the administration of vitamin B12.

3. What is the patient's management?

Cyanocobalamin 1000 mcg 1 time per day IM daily until hemoglobin normalizes, maintenance therapy with Cyanocobalamin 500 mcg 1 time per month for life. Recommended: eating animal products (liver, kidneys, eggs, milk). Elimination of alcohol intake. Treatment of elderly people with IDA

1. Persons over 50 years of age with moderate or moderate IDA are prescribed iron preparations at the rate of 30 mg of elemental iron containing 400 **µ**g (0.4 mg) of folic acid, and an additional 2.4 **µ**g of vitamin B12

2. Evaluation of adherence to therapy is carried out 14 days after the start of treatment.

3. 4 weeks after the initiation of IDA treatment, Hb should be redetermined. If there is a positive result for the prescribed treatment (an increase in Hb by 20 g / l within 4 weeks), then the treatment should continue for another 5 months. The general course of treatment with iron is 6 months.

4. Within 6 months of treatment, Hb is re-determined after 3 and 6 months from the start of treatment in order to track whether hemoglobin has returned to normal.

5. In the absence of a positive result from the treatment, the doctor should determine the possible reasons for the lack of improvement: insufficient dose of elemental iron, irregular intake or refusal to take iron supplements. If errors in treatment are excluded, the patient should be referred to a therapist or hematologist to clarify the form of anemia.

6. Persons over 50 years of age with severe anemia (Hb below 70 g / l) should be consulted by a hematologist / therapist.

7. In persons over 50 years of age with severe malnutrition, anemia is often severe. However, oral iron therapy should not be started until the patient's appetite is restored and the patient begins to gain weight, usually 14 days after the start of nutritional adjustments.

8. There are no special requirements for the regimen of work, rest, treatment, rehabilitation, persons over 50 years old should refrain from heavy physical exertion, which can potentially cause palpitations (C).

9. The ineffectiveness of IDA therapy in people over 50 is often associated with constipation. In such cases, an adequate dose of lactulose is added to the therapy at a dose of 50-100 ml, and after a stable effect is obtained, the dose of lactulose is halved (C).

10. Diet does not play a significant role in IDA therapy; the exception is persons over 50 years of age, adherents of vegetarianism and other diets with a low content of iron-containing foods, who should be advised to expand their diet by including meat products (E).

Blood transfusion is prescribed only if hemoglobin is low and signs of an impending coma appear. For B12 deficiency anemia of an autoimmune nature, corticosteroids (prednisone) are used.

Thus, the treatment is reduced to the following principles: saturation with vitamin B12, supportive measures, prevention of the development of anemia.

Treatment of B12 deficiency anemia primarily involves the delivery of the vitamin to the body, bypassing the gastrointestinal tract. In case of impaired absorption of B12 by the intestines, vitamin injections are indicated, which are done daily (once or twice a day). After ten days, the dose is reduced, the treatment continues for another ten days. Then the drug is administered for three months once a week,

then for six months, one injection is carried out once every two weeks. The B12 level in the blood will reach the desired value in about 1.5-2 months, the neurological symptoms will disappear in six months. In case of intestinal malabsorption, lifelong treatment is required. With timely initiation of therapy, the prognosis is favorable.

4. Medical and labor expertise. Dispensary observation.

Disability criteria.

III group of disability is determined in case of moderate iron deficiency anemia with rare exacerbations and prolonged remissions, moderate dysfunctions of the nervous and cardiovascular systems, leading to a limitation of the ability to work, self-service grade 1, in the presence of contraindicated factors in the nature and conditions of work and cases of the need for rational employment with a decrease in qualifications or a decrease in the volume of production activities, if rational employment is impossible on the conclusion of medical commission.

Group II disability is defined in severe iron deficiency anemia with frequent relapses and short-term incomplete remissions, severe HF, damage to the nervous system (funicular myelosis), ineffectiveness of treatment, leading to a limitation of the ability to self-service, movement, learning, labor activity II Art. In some cases, patients can work in specially created conditions, at home, taking into account professional skills.

Disability group I is defined in severe deficiency anemia, with frequent relapses, pernicious crises and severe neurological disorders (paralysis of the lower extremities, pelvic disorders), ineffectiveness of treatment, leading to a limitation of the ability to self-care, movement, and work activity of the III degree.

Dispensary observation. Persons with latent iron deficiency are not subject to medical examination. If IDA is a consequence of some pathological process, then special dispensary observation is not required, because patients have already been included in the underlying disease. The local doctor is monitoring the patients with IDA. The frequency of observations in the acute period is 1-2 times a year.

Primary prevention of IDA is reduced to the timely diagnosis and treatment of diseases accompanied by blood loss. These are diseases such as hemorrhoids, peptic ulcer disease, erosive gastritis, ulcerative colitis, uterine fibromatosis, hiatal hernia, intestinal tumors.

Secondary prevention of iron deficiency is indicated for those patients in whom the cause leading to iron deficiency is irreparable. Patients with an enteral iron deficiency anemia should be advised to take iron supplements for 7-10 days each month. With heavy menstruation, iron supplements must be used monthly for the same period. The beginning of their application should be timed to coincide with the appearance of menstruation.

Prophylactic use of iron preparations is necessary for donors who constantly donate blood, for pregnant women in cases where pregnancy was preceded by heavy menstruation or when pregnancies follow one after another.

Clinical case No. 6

1. What is the preliminary diagnosis?

B12-deficiency anemia, grade 2.

The diagnosis was made on the basis of complaints of general weakness, fatigue, palpitations, shortness of breath on exertion, nausea, belching, heaviness in the epigastrium; anamnesis data: signs of gastric dyspepsia for about 15 years; objective examination data: the general condition of moderate severity, the skin is pale, slight yellowness of the skin and sclera of a lemon shade, the face is puffy, the borders of the heart are expanded to the left by 1 cm, the tones are slightly muffled, the tongue is crimson, the papillae are smoothed, the liver is +1 cm; laboratory examination: hemoglobin - 70 g / l, erythrocytes - 2.9 × 1012 / l, CP - 1.3, reticulocytes - 0.1%, leukocyte formula without features, ESR - 30 mm / h, MCV - 70 fl. The blood smear revealed hyper segmented neutrophils, Jolly's little bodies and Kebot's rings.

2. What additional tests would you recommend to the patient, and what are the expected results?

➢ Study of serum iron: the norm for men is 0.6–1.7 mg / l (13–30 μmol / l); the norm for women is 0.5–1.6 mg / l (12–25 μmol / l). With IDA, serum iron is reduced. Determination of serum ferritin is the most sensitive and specific laboratory sign of iron deficiency: the norm for men is 20–350 μg / l; the norm for women is 10–150 mcg / l. With IDA, a decrease in serum ferritin levels.

➢ Total serum iron-binding capacity (TIBC) reflects the degree of serum starvation. The norm is 30–85 μmol / l. With IDA, the value of the indicator increases. The latent iron-binding capacity of serum is on average 50.2 μmol. With IDA, the indicator increases. The last two tests are rarely used in clinical practice. The ratio of the iron index to the total iron-binding capacity of serum, expressed as a percentage, reflects the degree of saturation of transferrin with iron (the norm is 16-50%). The IDA is characterized by a decrease in this indicator. Desferal test (desferal complexone, which binds iron and excretes it in the urine). After intravenous administration of desferal in the urine, 0.8 to 1.2 mg of iron is normally excreted. With IDA - 0.2 mg and below.

➢ In the punctate of the bone marrow, as a rule, without significant changes: some irritation of the red sprout (with bleeding); a decrease in the number of sideroblasts; determining the cause of iron deficiency.

Instrumental research

According to indications, ECG, ultrasound of internal organs, EGDS / colonoscopy are performed.

3. What is the patient's management?

It is necessary to determine the cause of anemia: nutritional deficiency - insufficient intake of not only meat, but also dairy products and eggs, impaired absorption of vitamin B12 from food into the blood, absorption of vitamin B12 by microorganisms (intestinal bacteria or worms - round or flatworms), increased intake of vitamin B12 - any malignant tumor, increased secretion of vitamin B12 - insufficient binding to blood proteins, liver and kidney disease. This requires the following studies: myelogram; - biochemical blood test for ALT, AST,

bilirubin. creatinine, CRP; - determination of vitamin B12 by radioimmunological method; - determination of the level of folic acid in the peripheral blood; - determination of methylmalonic and propionic acids in urine and / or blood.

Treatment: intramuscular injections of vitamin B12 at a dosage of 500 mcg 2 times a day (Cyanocobalamin, Oxycobalamin, Adenosylcobalamin).

4. Medical and labor expertise. Dispensary observation.

Disability criteria.

III group of disability is determined in case of moderate iron deficiency anemia with rare exacerbations and prolonged remissions, moderate dysfunctions of the nervous and cardiovascular systems, leading to a limitation of the ability to work, self-service grade 1, in the presence of contraindicated factors in the nature and conditions of work and cases of the need for rational employment with a decrease in qualifications or a decrease in the volume of production activities, if rational employment is impossible on the conclusion of medical commission.

Group II disability is defined in severe iron deficiency anemia with frequent relapses and short-term incomplete remissions, severe HF, damage to the nervous system (funicular myelosis), ineffectiveness of treatment, leading to a limitation of the ability to self-service, movement, learning, labor activity II Art. In some cases, patients can work in specially created conditions, at home, taking into account professional skills.

Disability group I is defined in severe deficiency anemia, with frequent relapses, pernicious crises and severe neurological disorders (paralysis of the lower extremities, pelvic disorders), ineffectiveness of treatment, leading to a limitation of the ability to self-care, movement, and work activity of the III degree.

Dispensary observation. After achieving remission, the patient should remain under the supervision of a family doctor, since it is important to diagnose the possibility of relapse in time. With the

outpatient use of these drugs, it is mandatory to control the blood composition 2 times a week.

Primary prevention is reduced to the timely diagnosis and treatment of diseases accompanied by blood loss. These are diseases such as hemorrhoids, peptic ulcer disease, erosive gastritis, ulcerative colitis, uterine fibromatosis, hiatal hernia, intestinal tumors.

Secondary prophylaxis is indicated for those patients in whom the cause leading to iron deficiency is irreparable. Timely treatment of chronic diseases is necessary. With heavy menstruation, iron supplements must be used monthly for the same period. The beginning of their application should be timed to coincide with the appearance of menstruation.

Clinical case No. 7

1. What is the preliminary diagnosis?

Aplastic anemia, severe.

2. What additional tests would you recommend to the patient, and what are the expected results?

Biochemical blood test: total protein, albumin, total bilirubin, direct bilirubin, creatinine, urea, ALaT, ASaT, glucose, C-reactive protein, alkaline phosphatase, studies of iron metabolism, vitamin B12 and folic acid content, coagulogram, blood group and rhesus -factor.

ELISA for markers of viral hepatitis and HIV markers.

Immunological tests (immunophenotyping to exclude paroxysmal nocturnal hemoglobinuria).

Histological examination of the trepan biopsy of the iliac crest.

Instrumental studies according to indications: ECG; Ultrasound of the abdominal organs (liver, spleen, pancreas, gallbladder, lymph nodes, kidneys), in women - small pelvis; chest x-ray.

3. What is the patient's management?

The treatment of aplastic anemia is a very difficult task. 1. Treatment with glucocorticoids is effective if it is caused by autoimmune

mechanisms, the appearance of antibodies against blood cells. 2. Treatment with anabolic drugs stimulates hematopoiesis. 3. Treatment with androgens has an anabolic effect and stimulates erythropoiesis. 4. Treatment with cytostatics (immunosuppressants) - is prescribed only if there is no effect from other methods of treatment in patients with an autoimmune form, including with partial red cell aplasia. 5. Splenectomy 6. Treatment with anti-lymphocytic globulin is recommended in the absence of effect from splenectomy and other methods of treatment. 7. Treatment with cyclosporine. Cyclosporin A (sandimmune) has an immunosuppressive effect, selectively inhibits the transcription of the interleukin-2 gene in T-lymphocytes, inhibits the production of interferon Gam and tumor necrosis factor alpha. 8. Bone marrow transplant. The main and only pathogenetic method for the treatment of aplastic anemia, which makes it possible to count on saving the patient's life, is bone marrow transplantation from a compatible donor. If it is impossible to find a donor, palliative therapy is performed. It is built according to the following scheme. The immunosuppressant ciclosporin A is used as a basic drug. In patients with mild aplastic anemia, the use of this drug allows us to count on success in a number of cases. In addition, the use of cyclosporin A is also advisable from the standpoint that glucocorticoids, androgens and antilymphocytic globulin can improve the state of hematopoiesis in patients with mild aplastic anemia, but, however, the increased risk of subsequent development of clonal bone marrow diseases should be taken into account. The use of cyclosporin A minimizes this risk. It should also be noted that in some patients with mild aplastic anemia who have overcome the 6-month survival threshold, spontaneous improvement may occur even if they have not received any immunosuppressive therapy. The effect of immunosuppressive therapy in patients with severe and extremely severe aplastic anemia is questionable. 9. Treatment with stimulating factors or myeloid growth factors - these are glycoproteins that stimulate the proliferation and differentiation of different types of hematopoietic progenitor cells. 10. Transfusion of erythrocytes indications are severe anemia, signs of cerebral hypoxia, hemodynamic disturbances.

All patients with aplastic anemia require replacement transfusion therapy with erythrocyte and / or platelet mass. The volume of transfusion therapy is determined by the parameters of peripheral blood and clinical manifestations of the disease. In addition, antibacterial and mycostatic therapy is carried out to prevent or treat infectious complications.

4. Medical and labor expertise. Dispensary observation.

Indications for referral to the ITU Bureau.

- The need for rational employment of patients with aplastic anemia;
- II, III, IV stages of the disease;
- transformation into a malignant form;
- the progression of the disease or its complications.

The required minimum examination for referral to the ITU bureau: blood test, platelets and reticulocytes, myelogram, Immunophenotyping of blood lymphocytes, total protein and fractions, chest x-ray, ultrasound of the abdominal organs, consultation with an ophthalmologist and neurologist, a hematologist's conclusion.

Disability criteria.

III group of disability is established for patients with I, II stages of the disease, in the absence of its progression, limitation of the ability to work, I st., With the aim of rational employment, retraining or reducing the amount of work performed.

II group of disability is established for patients with III-VI stage of the disease, requiring specific treatment, due to severe dysfunctions, limitation of the ability to self-service, independent movement of the 2nd degree, labor activity of the 2nd degree. Labor is available only in specially created conditions.

Group I disability is established for patients with stage IV disease in the presence of severe anemia and thrombocytopenia, persistent severe infection and complications; with the rapid progression of the disease, transformation into a malignant form, limitation of the ability to self-service 3 tbsp., independent movement of 3 tbsp., and an unfavorable prognosis.

Dispensary observation. Patients with a confirmed diagnosis of aplastic anemia are under dynamic observation by a hematologist-oncologist. A blood test is performed every 1-3-6 months. Supportive cytostatic therapy is prescribed if necessary.

Prophylaxis. To date, there is no specific prophylaxis for aplastic anemia.

Clinical case No. 8

1. What is the preliminary diagnosis?

Chronic post hemorrhagic iron deficiency anemia of grade 3.

2. What additional tests would you recommend to the patient, and what are the expected results?

The study of serum iron: the norm for men - 0.6-1.7 mg / l (13-30 **μ**mol / l); the norm for women is 0.5–1.6 mg / l (12–25 μmol / l). With IDA, serum iron is reduced. Determination of serum ferritin is the most sensitive and specific laboratory sign of iron deficiency: the norm for men is 20–350 **μ**g / l; the norm for women is 10–150 mcg / l. With IDA, a decrease in serum ferritin levels.

Total serum iron-binding capacity (TIBC) reflects the degree of serum starvation. The norm is 30–85 **μ**mol / l. With IDA, the value of the indicator increases. The latent iron-binding capacity of serum (calculated by the formula OZhSS - Fe serum) is on average 50.2 **μ**mol. With IDA, the indicator increases. The last two tests are rarely used in clinical practice. The ratio of the iron index to the total iron-binding capacity of serum, expressed as a percentage, reflects the degree of saturation of transferrin with iron (the norm is 16-50%). The IDA is characterized by a decrease in this indicator. Desferal test (desferal complexone, which binds iron and excretes it in the urine). After intravenous administration of desferal in the urine, 0.8 to 1.2 mg of iron is normally excreted. With IDA - 0.2 mg and below.

In the punctate of the bone marrow, as a rule, without significant changes: some irritation of the red sprout (with bleeding); a decrease in the number of sideroblasts; determining the cause of iron deficiency.

Instrumental research

According to indications, ECG, ultrasound of internal organs, EGDS / colonoscopy are performed.

3. What is the patient's management?

IDA treatment in women of reproductive age

1. Women of reproductive age with moderate (mild or moderate) IDA should receive iron supplements at the rate of 120 mg of elemental iron per day (60 mg x 2 times a day) for 3 months.

2. For women of reproductive age with severe IDA, iron preparations are prescribed at the rate of 180 mg of elemental iron per day (60 mg x 3 times a day) for 3 months.

3. Folic acid for women of reproductive age with IDA is prescribed in a dose of 0.4 mg daily for 3 months.

4. Iron preparations are best taken between meals, it is advisable to drink it with juice or boiled water. It is forbidden to drink tea, coffee.

5. Evaluation of adherence to therapy is carried out 14 days after the start of treatment.

6. 4 weeks after the start of IDA treatment, Hb should be re-determined. If there is a positive result on the prescribed treatment (any increase in Hb compared to the baseline level before the start of treatment), then the treatment should be continued for another 2 months. The general course of treatment with iron is 3 months, followed by a transition to a prophylactic regimen of weekly supplementation (see above).

7. In the absence of a positive result from the treatment (an increase in hemoglobin compared with baseline values before the appointment of iron preparations), the doctor should determine the possible reasons for the lack of improvement: insufficient dose of elemental iron, irregular intake or refusal to take iron supplements. If errors in treatment are excluded, the woman should be referred to a therapist or hematologist (in TB, OB) to clarify the form of anemia.

8. Women with severe anemia (Hb below 70 g / l) should be consulted by a physician or hematologist.

9. In severely emaciated women, anemia is often severe. However, oral iron therapy should not be started until the woman's appetite is restored and she begins to gain weight. If appetite or weight is not normalized, the patient should be referred to a hematologist for further examination.

4. Medical and labor expertise. Dispensary observation.

Disability criteria.

III group of disability is determined in case of moderate iron deficiency anemia with rare exacerbations and prolonged remissions, moderate dysfunctions of the nervous and cardiovascular systems, leading to a limitation of the ability to work, self-service grade 1, in the presence of contraindicated factors in the nature and conditions of work and cases of the need for rational employment with a decrease in qualifications or a decrease in the volume of production activities, if rational employment is impossible on the conclusion of medical commission.

Group II disability is defined in severe iron deficiency anemia with frequent relapses and short-term incomplete remissions, severe HF, damage to the nervous system (funicular myelosis), ineffectiveness of treatment, leading to a limitation of the ability to self-service, movement, learning, labor activity II Art. In some cases, patients can work in specially created conditions, at home, taking into account professional skills.

Disability group I is defined in severe deficiency anemia, with frequent relapses, pernicious crises and severe neurological disorders (paralysis of the lower extremities, pelvic disorders), ineffectiveness of treatment, leading to a limitation of the ability to self-care, movement, and work activity of the III degree.

Dispensary observation.

Timely diagnosis of the disease, prescription of pathogenetic therapy, exclusion of risk factors, anti-relapse treatment. Social and labor rehabilitation includes training and retraining of patients with an accessible profession, the definition of a work recommendation, rational employment, and the preparation of an IPR.

Clinical case No. 9

1. What is the preliminary diagnosis?
Acute leukemia

2. What additional tests would you recommend to the patient, and what are the expected results?

- The bone marrow is punctured with a needle inserted into the bone cavity. Usually the chest is selected for biopsy. The study shows the presence of an acute or chronic process. The analysis can determine the cytogenetic and morphological type of the disease. This procedure checks the response of the affected cell to the chemotherapy drug.
- A myelogram reveals the ratio of abnormal cells to normal cells. The examination shows the degree of damage to the organism. In a healthy person, blast cells should not exceed 5%. The test material is represented by a bone marrow sample. During the procedure, lymphocytosis and the nature of atypical cells are detected. There are no megakaryocytes. This method is recognized as the most accurate for making a diagnosis.
- Cytochemical laboratory diagnostics is based on the determination of specific enzymes. The method is indispensable for determining acute forms of the disease and predicting their course.
- Immunophenotyping is performed to diagnose acute lymphocytic and myeloid leukemia. The tactics of treatment of these types of leukemia are different, so it is important to clarify the diagnosis.
- It is necessary to examine the cerebrospinal fluid (cerebrospinal fluid) to detect an increased number of cells (cytosis).

Instrumental methods. With the help of computed tomography, vascular damage and metastases in the lymph nodes are detected. The method is used for large-scale diagnostics of the body by means of layer-by-layer scanning. Chest X-ray is prescribed for characteristic symptoms of lung damage: regular coughing, sputum production with blood inclusions, chest pain. If the oncological process has affected the brain, magnetic resonance imaging is recommended. The disease is characterized by symptoms: blurred vision, numbness of the limbs,

impaired memory and consciousness, dizziness and fainting. To detect abnormalities in the work of the heart muscle, an electrocardiogram and an echocardiogram are performed.

3. What is the patient's management?

Depending on the type of leukemia, polychemotherapy courses are carried out (for acute myeloid leukemia - according to the 7 + 3 program - cytosar, rubomycin, for acute lymphoblastic leukemia - a two-phase eight-week scheme according to D. Hollzer.) Against the background of thromboconcentrate transfusions, antibiotic therapy.

4. Medical and labor expertise. Dispensary observation.

III group of disability is established for patients with I, II stages of the disease, in the absence of its progression, limitation of the ability to work, I st., With the aim of rational employment, retraining or reducing the amount of work performed.

II group of disability is established for patients with III-VI stage of the disease, requiring specific treatment, due to severe dysfunctions, limitation of the ability to self-service, independent movement of the 2nd degree, labor activity of the 2nd degree. Labor is available only in specially created conditions.

Group I disability is established for patients with stage IV disease in the presence of severe anemia and thrombocytopenia, persistent severe infection and complications; with the rapid progression of the disease, transformation into a malignant form, limitation of the ability to self-service 3 tbsp., independent movement of 3 tbsp., and an unfavorable prognosis.

Dispensary observation. With a positive effect, after the first stage of treatment, a regimen fixing remission is used: courses are usually carried out 1-3 times, depending on the specific situation. Achievement of remission is confirmed on the basis of data obtained during control bone marrow puncture. Prevention of neuroleukemia in acute leukemia must be carried out from the first week of treatment with a normal composition of cerebrospinal fluid. It usually involves

irradiation of the head and intra-lumbar administration of methotrexate (from the third day of radiation).

For the next five years, continuous supportive therapy is carried out on an outpatient basis. It begins immediately after achieving complete remission or after courses that consolidate the achieved remission.

The outpatient stage of treatment of children with leukemia involves the implementation of the entire necessary complex of therapeutic measures, including the appointment of antimetabolites, corticosteroid hormones, cytostatics, symptomatic drugs under the supervision of a hematologist and attending physician. The choice of tactics is developed strictly individually, taking into account the specific clinical and morphological variant of hemoblastosis.

Patients are regularly tested for peripheral blood and urine, blood pressure is systematically monitored (at first, at least once a week, and then, when the pathological process stabilizes, once every 10-15 days).

Currently, not only patients with a clear clinical and hematological picture of leukemia, but also those with abnormalities in hemograms are subject to clinical examination. It should be borne in mind that in the initial period of the disease, the hemoglobin level and the number of formed elements may not be changed, and therefore the diagnostic value of these indicators is not so great.

Clinical case No. 10

1. What is the preliminary diagnosis?

Hereditary hemolytic anemia: hereditary micro spherocytosis (Minkowski-Shoffard disease). Mild anemia. Gallstones: chronic calculous cholecystitis, exacerbation stage?

The diagnosis “hereditary hemolytic anemia: hereditary micro spherocytosis (Minkowski-Shoffard disease)” was made on the basis of complaints of yellowing of the skin observed since childhood, almost half the size of erythrocytes, reduced osmotic resistance of erythrocytes, signs of hemolysis (increased total bilirubin, increased indirect bilirubin, reticulum , enlargement of the spleen). The diagnosis

"mild anemia" was made on the basis of hemoglobin - 91 g / l. 3) The diagnosis "chronic calculous cholecystitis" was made on the basis of complaints (attacks of severe pain in the right hypochondrium); anamnesis (in the last 8 years the patient began to be bothered by pain in the right hypochondrium of a paroxysmal nature), frequent association of cholelithiasis and hereditary hemolytic anemia.

2. What additional tests would you recommend to the patient, and what are the expected results?

1. Complete blood count: normochromic or hyperchromic anemia (according to the color index), hyper regenerative (reticulocyte level more than 5%), micro spherocytic (according to erythrocyte morphology), morphologically - anisocytosis, poikilocytosis, micro spherocytes.

2. Hematological automatic analysis: MCV at the lower limit of normal; MCH - within normal limits; MCHC - within normal limits; RDW - in the absence of hemolysis within the normal range, increases with a crisis.

3. Biochemical blood test: an increase in total bilirubin (due to the indirect fraction), the level of LDH and alkaline phosphatase.

4. Osmotic resistance of erythrocytes: the minimum decreases (hemolysis begins in 0.6–0.7% NaCl solution), maximum increases or within normal limits (hemolysis ends in 0.3–0.25% NaCl solution).

5. Erythrocytometry and the construction of the Price-Jones curve - a decrease in the diameter of erythrocytes and a shift of the Price-Jones erythrocytometry curve to the left.

6. Electrophoresis of proteins of the membrane of erythrocytes in polyacrylamide gel in combination with the quantitative determination of proteins allows you to make a final diagnosis

7. Research of urine: urobilinuria - positive qualitative and quantitative reactions.

8. Study of feces: increased levels of stercobilin.

9. Puncture of the bone marrow (according to indications): hyperplasia of the erythroid lineage with a decrease in the leukoerythroblastic ratio.

10. Other research methods: serum iron and serum ferritin (within normal limits or increased); direct and indirect Coombs' test (negative); hemoglobinemia and hemoglobinuria (negative); the content of enzymes in erythrocytes: G6PD, pyruvate kinase, etc. within normal limits; morphology of types of hemoglobin (there are no pathological forms); AsAt, AlAt, Veltman's test, sublimate, thymol tests within normal limits.

Laboratory signs of hemolysis are: anemia, an increase in the number of reticulocytes and the concentration of total bilirubin due to the indirect fraction (intracellular hemolysis) + free hemoglobin of blood and urine (intravascular hemolysis). Specific paraclinical markers of Minkowski-Shoffard anemia: microspherocytosis over 10-15% and a decrease in the minimal osmotic resistance of erythrocytes.

Instrumental studies according to indications: ECG, ultrasound of internal organs.

3. What is the patient's management?

In the period of hemolytic crisis, treatment is conservative. The patient is to be hospitalized. Therapy should be aimed at eliminating these disorders according to generally accepted schemes. Erythromass transfusions are indicated only with the development of severe anemia (8-10 ml / kg). The use of glucocorticoids is impractical. Upon exiting the crisis, the regime and diet are expanded, choleretic drugs (mainly cholekinetics) are prescribed. In case of development of an argenerative crisis, replacement blood transfusion therapy and stimulation of hematopoiesis (erythromass transfusion, prednisolone 1-2 mg / kg / day, vit. B12 until reticulocytosis appears, etc.) is necessary.

A radical method of treating hereditary spherocytosis is splenectomy, which provides practical recovery, despite the preservation of spherocytes and a decrease in osmotic resistance (the degree of their severity decreases). The optimal age for the operation is 5-6 years. However, age cannot be considered as a contraindication to surgical treatment. Severe hemolytic crises, their continuous course, and regenerative crises are indications for splenectomy even in young children. There is an increased propensity for infectious diseases within 1 year

after surgery. In this regard, in a number of countries, a monthly introduction is adopted for one year after splenectomy of bicillin-5 or before a planned splenectomy, immunization with pneumococcal polyvaccine is carried out.

4. Medical and labor expertise. Dispensary observation.

Disability criteria.

III group of disability is determined in case of moderate anemia with rare exacerbations and prolonged remissions, moderate dysfunctions of the nervous and cardiovascular systems, leading to a limitation of the ability to work, self-service grade 1, in the presence of contraindicated factors in the nature and conditions of work and cases of the need for rational employment with a decrease in qualifications or a decrease in the volume of production activities, in the impossibility of rational employment on the conclusion of medical commission.

II group of disability is defined in severe anemia with frequent relapses and short-term incomplete remissions, severe HF, damage to the nervous system (funicular myelosis), ineffectiveness of treatment, leading to a limitation of the ability to self-service, movement, learning, labor activity II Art. In some cases, patients can work in specially created conditions, at home, taking into account professional skills.

Disability group I is defined in severe anemia, with frequent relapses, pernicious crises and severe neurological disorders (paralysis of the lower extremities, pelvic disorders), ineffectiveness of treatment, leading to a limitation of the ability to self-care, movement, and work activity of the III degree.

Timely diagnosis of the disease, prescription of pathogenetic therapy, exclusion of risk factors, anti-relapse treatment. Social and labor rehabilitation includes the training and retraining of patients with an accessible profession, the definition of a labor recommendation, rational employment, the preparation of an IPR and control over its implementation.

CONCLUSION

The data on the diagnosis and treatment of cardiological, pulmonological, rheumatological, gastroenterological, nephrological, endocrinological and hematological diseases contained in the textbook will allow primary care physicians (family doctors, internists, pediatricians, obstetricians and gynecologists) to improve the quality of primary health care to patients.

The standards of answers to the clinical cases will be able to coordinate the family doctor in the right direction in relation to a patient with a particular pathology, and will also help in carrying out differential diagnosis, treatment, primary and secondary prevention, examination of working capacity. Adequately carried out rehabilitation and medical examination of patients will help to improve the quality of life of patients, increase its duration, contribute to the speedy restoration of working capacity.

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