Federal State Budget Educational Institution

of Higher Education "Orenburg State Medical University"

of the Health Ministry of Russia

**FUND OF ASSESSMENT TOOLS**

**FOR THE CURRENT**

**MONITORING OF ACADEMIC PERFORMANCE**

**AND INTERMEDIATE CERTIFICATION**

**STUDENTS ON THE DISCIPLINE**

**PROPAEDEUTICS OF INTERNAL DISEASES**

by specialty

*31.05.01 General medicine*

*(faculty of international students)*

Is part of the basic professional educational programs of higher education in the direction of training (specialty) *31.05.01 General medicine*, approved by the Academic council of OrSMU Ministry of Health of Russia

protocol №9 of April 30, 2021

Orenburg

**1. Passport of the assessment tools fund**

The fund of evaluation tools for the discipline contains standard control and evaluation materials for the current control of students 'progress, including the control of students' independent work, as well as for the control of the results of training formed in the course of studying the discipline at the intermediate certification in the form of an exam.

Control and assessment of control performance distributed on the topics of discipline, and are accompanied by an indication of the used forms of control and assessment criteria. Control and evaluation materials for the intermediate certification correspond to the form of the intermediate certification for the discipline defined in the curriculum of the OPOP and are aimed at checking the formation of knowledge, skills and abilities for each competence established in the work program of the discipline.

As a result of studying the discipline, the student develops the following **competencies::**

**CPC-1** Able to implement moral and legal norms, ethical and deontological principles in professional activity

**PC-3** ability and willingness to perform a complete clinical examination of the patient, analysis and interpretation of the data obtained.

**PC-4** ability to determine the patient's main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health Problems, X revision

|  |  |
| --- | --- |
| Name of the competence | Indicator of achievement of competence |
| **CPC-1** able to implement moral and legal norms, ethical and deontological principles in professional activity | Ind. CPC.1.2 The ability to observe moral and legal foundations in professional communication with colleagues and patients |
| Ind. CPC.1.3 The ability to respect the interests of the patient, the principle of professional confidentiality The ability to respect the interests of the patient, the principle of professional confidentiality |
| **PC-3** ability and willingness to perform a complete clinical examination of the patient, analysis and interpretation of the data obtained. | Ind.PC 3.1. Readiness to collect patient complaints, history of his illness and life. |
| Ind. PC.3.2 Be able to conduct a physical examination of the patient, interpret the results of modern methods of clinical, laboratory and instrumental diagnostics of patients with a therapeutic profile. |
| **PC-4** ability to determine the patient's main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health Problems, X revision | Ind.PC 4.1. Readiness to determine the patient's main pathological conditions, symptoms and syndromes of diseases. |

**1. Evaluation materials of the current control of students ' progress.**

**Assessment materials throughout the discipline.**

**Abstract topics (V semester-1,2 modules):**

1. Daily blood pressure monitoring

2. Holter monitoring

3. Transesophageal stimulation of the heart

4. Bicycle Ergometry

5. Echocardioscopy

6. Ultrasound of internal organs

7. X-ray examination of the stomach and intestines

8. Fibrogastroduodenoscopy

9. Radiography of the chest

10. Fibrobronchoscopy

11. Gastric probing

12. Non-probe study of gastric juice

13. Duodenal probing

14. Gastric pH-metry

15. Intravenous urography

16. Sample of General tests and sample dilution on the concentration

17. Conducting and evaluating the results of functional load tests on the Rod-Gencha.

Note: write the indications, contraindications to the method and the method of conducting, specify the features and value of the method

**Abstract topics (VI semester-3 module):**18. Абсцесс легкого.

19. Bronchiectatic disease.

20. Pleurisy (dry and exudative).

21. Lung cancer.

22. Myocarditis and myocardiodystrophy (non-rheumatic). The overall presentation.

23. Enteritis.

24. Colitis.

25. Gallstone disease.

26. Cholecystitis.

27. Urolithiasis.

28. Chronic myeloid leukemia.

29. Chronic lymphocytic leukemia.

30. The concept of adrenal dysfunction.

31. Angioedema.

32. Urticaria.

33. Joint syndrome.

34. Rheumatoid arthritis (general concepts).

35. General ideas about diabetes.

36. Hypovitaminosis, beriberi.

**List of general medical skills and abilities**

1. Methodical questioning of the patient.

2. The questioning of the pulmonary patient.

3. Questioning a heart patient.

4. General inspection.

5. Superficial palpation of the abdomen

6. Palpation of the cecum

7. Palpation of the sigmoid colon

8. Palpation of the transverse colon

9. Palpation of the descending intestine

10. Palpation of the ascending intestine

11. Palpation of the liver

12. Palpation of the spleen

13. Palpation of the kidneys

14. Point palpation, palpation of ureteral points

15. Palpation of the chest, its tasks.

16. Palpation of the apical push

17. Palpation of the heartbeat

18. Palpation of the thyroid gland

19. Palpation of the lymph nodes

20. Palpation of the stomach

21. Inspection and palpation of the joints

22. Pasternatsky's symptom

23. Examination and palpation of the chest

24. "Cat purr", palpation of its species

25. Comparative percussion of the lungs in the front

26. Comparative percussion of the lungs from behind

27. Determination of the percutaneous height of the standing of the apices of the lungs in front

28. Determination of the percutaneous height of standing of the apices of the lungs from behind

29. Definition of Krenig fields

30. Determination of the lower border of the lungs by the mid-clavicular line

31. Determination of the lower border of the lungs along the mid-axillary line

32. Determination of the lower border of the lungs along the scapular line

33. Determination of the excursion of the pulmonary edge along the scapular line

34. Percussion of the right border of relative cardiac dullness

35. Percussion of the left border of relative cardiac dullness

36. Determination of the width of the vascular bundle

37. Determination of the diameter of the heart

38. Determination of absolute cardiac dullness

39. Determination of the first size of the liver according to Kurlov

40. Percussion of the spleen

41. Percutaneous determination of fluid in the abdominal cavity

42. Percussion of the liver by Kurlov

43. Percutaneous determination of the size of the heart diameter

44. Percussion of absolute heart dullness

45. Auscultation of the heart

46. Blood pressure measurement, pulse palpation

47. Auscultation of the lungs

48. Collection of material for laboratory studies in somatic pathology in the patient: blood, urine, feces, sputum, bone marrow, pleural fluid.

49. Evaluation of the results of tests: general blood analysis, general urine tests, according to Nechiporenko, Addis-Kakovsky, Amburzhe, samples according to Zimnitsky, coprograms;

50. Evaluation of the results of tests: biochemical blood tests for somatic diseases:

- rheumatoid complex (total protein, protein fractions, sialic acid, Weltman test, C-reactive protein, formol test);

- renal complex (total protein, protein fractions, cholesterol, urea, residual nitrogen, endogenous creatinine clearance,

electrolytes-potassium, calcium, phosphorus, sodium, chlorine);

- liver complex (total protein, protein fractions, cholesterol, total bilirubin, its fractions, Veltman test, sulem test,thymol test, ALT, AST, SCHF);

- acid-base state of the blood;

- fasting blood sugar, blood amylases, urine diastases,

51. Evaluation of the results of tests: general analysis of sputum, pleural fluid.

52. Evaluation of the coagulogram: clotting time, bleeding duration, heparin tolerance, prothrombin index, prothrombin time, recalcification time.

53. Preparation of the patient for X-ray and ultrasound examination of the gastrointestinal tract, urinary system; endoscopic examination of the gastrointestinal tract and respiratory organs.

54. Conducting gastric and duodenal probing.

55. Evaluation of test results: reading and interpreting the results of analysis of gastric and duodenal contents.

56. The technique of recording ECG in 12 leads.

57. The ECG interpretation.

58. Assessment of the function of external respiration.

**Assessment materials for each subject of the discipline:**

**Module 1** Direct research methods in propaedeutical practice

**Topic 1** 1. Introduction to the clinic. The main domestic therapeutic schools. Questions of medical ethics and deontology. The order and ways of hospitalization. Structure of the therapeutic department. The care of the sick. Mode of the day. Chart of the medical history. The subject and tasks of propaedeutics of internal diseases. Interview with a lung patient, the main complaints and their pathogenesis: cough, sputum separation, chest pain, shortness of breath, suffocation, hemoptysis, voice change.

**Forms of ongoing monitoring of academic performance:**

- written survey;

- oral interview;

- solving problem-situational problems;

- development of practical skills;

- tests.

**Assessment materials of the current control of academic performance:**

**Questions for the written survey:**

**Option 1**

1. List the components of the question.

2. List the main therapeutic schools and their areas of activity.

3. What is ethics?

**Option 2**

1. List the main sections of the chart of the medical history.

2. That includes the medical history of the patient's life.

3. What is deontology?

**Questions and tasks for consideration:**

1. Definition, purpose and objectives of the subject propaedeutics of internal diseases.

2. Division of internal medicine clinics into propaedeutical, faculty and hospital clinics.

3. The concept of a symptom, methods for detecting symptoms of diseases of internal organs.

4. The concept of nosological form and principles of diagnosis formulation.

5. List the main therapeutic schools?

6. Tasks of the propaedeutic therapeutic school?

7. G. A. Zakhar'in's therapeutic school.

8. S. P. Botkin's therapeutic school.

9. Tasks of the propaedeutic therapeutic school?

10. What is diagnostics, its components?

11. What is semiotics (semiology), a syndrome?

12. What is the diagnosis?

13. What is the structure of the therapeutic department? Daily routine in the department?

14. The procedure for hospitalization of therapeutic patients?

15. Compliance with ethical standards in a medical institution.

16. Medical ethics and deontology.

17. Rules of conduct of a medical worker in relation to a patient, norms of relations between a medical worker and relatives of patients, between colleagues in the medical team.

18. What methods of research of the patient exist?

19. The main sections of the chart of the medical history.

20. Diagnostic value of the inquiry and its components: passport data, complaints, medical history and life history.

**Situational tasks on the topic of the practical lesson:**

1. Patient M, 54 years old, is being treated in a hospital for a tumor in the lung. The nurse who performed the doctor's appointments, during the next manipulation, told the patient that his condition was hopeless and treatment would not bring any results, perhaps he would develop lung cancer. What, according to the principles of medical ethics, could a nurse say?

2.Patient T., 80 years old, with a stroke, was admitted to the emergency department. The patient's condition is serious, is in a deep sopor. But the hospital was refused admission to the intensive care unit. The relatives of the patient were very indignant and demanded an explanation from the doctor on duty. He explained his decision by saying that he does not want to waste his time in vain, since the patient is elderly and the prognosis of his disease is unfavorable, and at any time a young patient can arrive, who has a greater probability of a favorable outcome. What is the correct doctor's tactic?

3. The woman has a temperature of 39.7 C, called to call the ambulance team. At her request to come, she was advised to take pills. The woman said that she is a disabled person of group 2, suffers from epilepsy and her condition is gradually getting worse, to which the dispatcher was rude to the woman, asked not to disturb them for nothing

**Typical practical tasks for testing skills:**

1. Methodical questioning of the patient

2. Inquiry: complaints of a pulmonary patient

3. Inquiry: complaints of a heart patient

4. Inquiry: passport details, complaints, medical and life history

5. collecting anamnesis of the disease

6. collecting a life history

7. collection of an allergological history

8. collecting a social history

9. collection of obstetric history

10. collection of epidemiological history, and so on.

**Practical skills development** (independent work of the student).

Students ask each other according to the scheme: collection of passport data, complaints, anamnesis of the disease and life. The results of the survey are recorded in a workbook.

**Test tasks**

**Option 1**

1. # Medical ethics is: a

specific manifestation of general ethics in the work of a doctor;

the science that considers the issues of medical humanism, the problems of duty, honor, conscience and dignity of medical workers;

science that helps to develop the ability of a doctor to be morally oriented in difficult situations that require high moral, business and social qualities;

+all of the above is true;

there is no right option.

2.#What kind of relationships are the norms and principles of medical ethics and deontology: the

relationship between a doctor and a patient;

relationship between the doctor and the patient's relatives;

relationships in the medical team;

relations between medical professionals and society;

+all of these.

3. # The observance of medical confidentiality is necessary for: the

protection of the inner world of a person, his autonomy;

protection of the social and economic interests of the individual;

creating a foundation of trust and frankness in the doctor-patient relationship";

maintaining the prestige of the medical profession;

+ all of the above.

4. # The doctor can inform the patient's relatives about the state of his health only in this case:

incurable disease;

mental disorders;

+with the patient's consent;

the need for surgical intervention;

in the case of an infectious disease of the patient. 5.#For the deontological model of the doctor-patient relationship, the basic principle is:

+ do your duty; do

not commit adultery;

keep a doctor's secret;

help a colleague;

the principle of non-interference.

6. #Which method should be called a subjective survey method:

+interviewing the patient (or their relatives);

examination of the patient;

palpation;

percussion.

7 \* Patient M, 54 years old, is being treated in a hospital for a tumor in the lung. The nurse who performed the doctor's appointments, during the next manipulation, told the patient that his condition was hopeless and treatment would not bring any results, perhaps he would develop lung cancer. What, according to the principles of medical ethics, could a nurse say:

when communicating with a patient, the nurse has the right to inform him about his diagnosis, inform him about the outcomes of the disease and the effectiveness of the treatment;

the nurse has no right to tell the patient about his diagnosis. But it can inform about the diagnosis, treatment and prognosis of his relatives and friends;

+the nurse did not have the right to transmit all the information that the specialists possess;

+"I would love to discuss this topic with you, I understand that it is important for you to know all this, but unfortunately, I do not have the full information, so I recommend that you talk about it with your doctor."

8 # List the typical complaints of respiratory diseases:

cough, drowsiness, diarrhea;

shortness of breath, palpitations, blood pressure;

+cough, fever, shortness of breath;

shortness of breath, swelling, irritability.

9# The woman has a temperature of 39.7, called to call the ambulance team. At her request to come, she was advised to take pills. The woman said that she is a disabled person of group 2, suffers from epilepsy and her condition is gradually getting worse, to which the dispatcher was rude to the woman, asked not to disturb them for nothing and hung up. No one answered the second call. Choose the right dispatcher's tactics: the

dispatcher recommended the woman to call the district therapist;

+the emergency medical dispatcher must act according to protocol. Hanging up the phone and not answering calls is a gross violation of professional duties;

the dispatcher recommended to be treated independently; the

dispatcher is right, since the patient has no indications for hospitalization, and calling an ambulance will be unjustified.

10# What links does the medical and diagnostic process include: a

conversation with the patient, making a diagnosis;

+talk with the patient, make a diagnosis, prescribe treatment;

interview with the patient, diagnosis, treatment appointment, discharge;

interview with the patient, appointment of treatment, discharge.

11# What method should be called a subjective survey method:

+interviewing the patient (or his relatives)

examination of the patient

palpation

percussion

12 # Inspiratory dyspnea is:

+hard to breathe

it's hard to breathe

it's hard to inhale and exhale

difficulty breathing lying down

13 # Symptom not typical for gastric bleeding:

vomiting with blood admixture;

black tar-shaped chair;

+cyanosis;

pallor of the skin

14 # Night diuresis prevails over day diuresis. Name this symptom:

+nocturia

pollakiuria

oliguria

ischuria

15# The patient has frequent urge to urinate with the release of a small amount of urine each time. Name this symptom:

oliguria

dysuria

nicturia

ischuria

+pollakiuria

16# Edema in diseases of the heart:

they appear in the morning hours

localized on the face

they shift when the patient's body changes

+localized on the feet, shins

17 # The excretion of urine in an amount of 300 ml per day is called:

nocturia

anuria

polyuria

+oliguria

pollakiuria

18 # A characteristic complaint of patients with diabetes is:

shortness of breath

+thirst

brittle nails

increased irritability

"crying"

Option 2

1.#Which of the following models of the relationship "doctor-patient" is the most rational from the point of view of the interests of patients:

"engineering-technical model" - the doctor as a specialist;

"paternalistic model" - the doctor as a " spiritual father";

+"cooperative model" - doctor-patient collaboration;

the "contractual model" is the doctor as a "provider", and the patient as a "consumer of medical services".

2.#What is the subject of medical secrecy:

information about the patient's condition during the period of his illness; information about the fact of seeking medical help; the patient's state of health, the diagnosis of his disease and other information obtained during his examination and treatment;

+all of the above.

3#In which document are the main postulates of medical ethics formulated: the

international code of medical ethics;

Declaration of Geneva;

the Lisbon Declaration;

+in all of the listed;

Declaration of Helsinki

4.#The main distinguishing feature of the professional ethics of a doctor is: the

right to deviate behavior;

+ conscious choice of moral principles and rules of conduct;

criminal liability for non-compliance with professional ethical standards;

the absolute necessity to subordinate personal interests to corporate interests;

the priority of the interests of medical science over the interests of a particular patient.

5 # Intervention in the field of human health can be carried out:

+based on the patient's free, informed and informed consent;

on the basis of medical evidence;

based on the rarity of the disease picture and its cognitive value;

based on the request of relatives;

based on the extraction of financial benefits.

6.#When asking a patient with complaints of heart pain, it is necessary to find out: the

relationship of pain with physical activity, stress;

localization of pain;

the nature of the pain;

circumstances that contribute to the disappearance of pain

+that's right

7\* Patient T., 80 years old, with a stroke, was admitted to the emergency department. The patient's condition is serious, is in a deep sopor. But the hospital was refused admission to the intensive care unit. The relatives of the patient were very indignant and demanded an explanation from the doctor on duty. He explained his decision by saying that he does not want to waste his time in vain, since the patient is elderly and the prognosis of his disease is unfavorable, and at any time a young patient can arrive, who has a greater probability of a favorable outcome. Choose the right doctor's tactics:

+ the refusal of a doctor to hospitalize a patient cannot be motivated by the preference of one patient to another on the basis of any attribute (nationality, age, prognosis of the disease, etc.), which violates the basic ethical and deontological rules in medicine;

the doctor is right, he correctly justified his refusal to be hospitalized;

+he was obliged to provide emergency medical care as soon as possible, considering the possibility of using thrombolytic therapy;

it is necessary to leave the patient in the emergency department and if no one arrives within an hour, then hospitalize.

8 # Patients with diseases of the cardiovascular system do not complain about:

+itchy skin;

shortness of breath;

heartbeat;

swelling on the legs.

9# What complaint is not typical for the defeat of the gastrointestinal tract:

heartburn;

diarrhea;

vomiting;

+frequent urination;

abdominal pain.

10# Which of the following is the order of ethical relationships in all parts of the medical structure of the department:

junior nurse-ward nurse-senior nurse-residents/doctors – head of departments;

+junior nurse-ward nurse-nurse-hostess-senior nurse-residents/doctors – head of departments;

junior nurse-ward nurse – senior nurse-residents /doctors – head of departments;

ward nurse-nurse-hostess-senior nurse-residents/doctors – head of departments.

11 # Expiratory dyspnea is:

it's hard to breathe

+hard to exhale

hard to inhale and exhale

hard to breathe lying down

12# Symptoms of heart disease:

pain, swelling, irritability

palpitations, pain, drowsiness

+pain, palpitations, swelling

edema, palpitations, anorexia

13 # Persistent skin itching is characteristic of: heart

disease lung disease

+liver

disease blood disease

14# Sputum in pulmonary edema:

mucosa

mucopurulent

purulent

+bloody

serous

15 # Frequent painful urination is:

anuria

+dysuria

oliguria polyuria

16 # Gastric bleeding is accompanied by:

+ vomiting in the form of "coffee grounds"

flatulence

vomiting the day before eating food

bleached feces

17# Petechial rash appears when disturbed:

red blood cells

white blood cells

eosinophils

+platelets

18# What links does the medical and diagnostic process include?:

interview with the patient, diagnosis;

+talk with the patient, make a diagnosis, prescribe treatment;

interview with the patient, diagnosis, treatment appointment, discharge;

interview with the patient, appointment of treatment, discharge.

**Topic 2.** Questioning a heart patient. The main complaints and their pathogenesis: pain in the heart, shortness of breath, cardiac asthma, palpitations, cough, hemoptysis. General examination of the patient. Private inspection of systems and organs.

**Forms of current monitoring of academic performance:**

- written survey;

- tests;

- oral interview;

- practice of practical skills.

**Assessment materials of the current control of academic performance**

**Questions for the written survey:**

**Option 1**

1. What does the general inspection include?

2. Assessment of consciousness

3. Describe the face of Corvisart.

**Option 2**

1. What is the private examination of the patient?

2. Assessment of the condition

3. Describe the face of Hippocrates.

**Test tasks:**

**Option 1**

1 # The patient asks for help, moans because of a sharp pain in the right hypochondrium, radiating to the right forearm, notes repeated vomiting, chills, fever up to 40° C, is extremely restless, does not find a place for himself, the tongue is dry, covered. Determine the patient's condition:

satisfactory

+moderate severity

severe terminal

2# Male, 63 years old, height 165 cm, weight 93 kg, stocky, dense. The abdomen is of considerable size, the limbs are short. Determine the constitutional type of the patient:

normosthenic

+hypersthenic hyposthenic

3# "The head of the jellyfish" is:

+varicose veins of the anterior abdominal wall

varicose veins of the back of the abdominal wall

varicose veins of the lower extremities

veins of the upper extremities

4 # Deep noisy sparse breathing is breathing:

Biota

Grocka

+Kussmaul

Cheyne-Stokes

5 # Acrocyanosis is characteristic of

liver failure

kidney failure

+heart failure

respiratory failure

6 # Edema of renal origin first appears:

on the legs lower

back and

arms

+face

7# "Frog" belly is characteristic of:

+ ascites

obesity

pregnancy

flatulence

8# The first appearance of jaundice is noted on:

hands

legs

+sclera of the eyes

torso

neck

**Option 2**

1 # The patient is inhibited, comprehension of the questions asked is difficult (answers them late, after repeated repetition of the question), is indifferent to everything, refuses to eat. Determine the patient's condition:

+stupor (a state of stun)

stupor

coma

swoon

nonsense

2# a Bright red palm are:

if you have kidney disease

diseases of the stomach

+liver

disease gallbladder disease

3# the Pathological form of the chest:

asthenic

+ barrel-shaped

hypersthenic

normosthenic

4# When examining the heart area, you can identify:

+pulsation of the apical push

heart

size vascular bundle size

symptom of "cat purr"

5 # Diffuse cyanosis is characteristic of:

liver failure

kidney failure

heart failure

respiratory failure

6 # Bronze color of the skin is observed in the pathology of the

pituitary gland

+adrenal glands of the

pancreas

thyroid gland

7# With anemia, the skin:

+pale

hyperemic

cyanotic

icteric

8# Male, 63 years old, height 165 cm, weight 93 kg, stocky, dense. The abdomen is of considerable size, the limbs are short. Determine the constitutional type of the patient:

normosthenic

+hypersthenic hyposthenic

**Questions for the oral survey:**

1. Types of examination of patients.

2. What does the usual examination of the patient include?

3. What is the severity of the patient's condition?

4. Describe the different types of consciousness.

5. Body types.

6. Assessment of the condition of the skin.

7. Private examination (examination of individual parts of the torso (head, face, neck, chest, abdomen, upper and lower limbs)). The symptoms detected in this case.

8. Name the types of dyspnea and give their pathogenesis.

9. Pulmonary and cardiac cyanosis and its pathogenesis.

10. Types of pain in diseases of the lungs and heart and their characteristics.

11. Name the causes of hemoptysis and give the distinctive signs of pulmonary bleeding.

12. Types of cough and its pathogenesis.

13. How is the examination of the skin, skin appendages (nails, hair),

visible mucous membranes, subcutaneous fat?

14. List the pathological faces of the patient?

15. Features of the respiratory system examination, chest types

its deformation.

16. Examination of the urinary system.

17. Examination of the cardiovascular system.

18. Examination of the digestive system.

19. Examination of the bone and joint system.

**Practical skills:**

1. Questioning a lung patient

2. Questioning a heart patient

3. collecting anamnesis of the disease

4. collecting a life history

5. collection of an allergological history

6. collection of social history

7. collection of obstetric history

8. collection of epidemiological history and so on.

9. General inspection

10. Private inspection of organ systems

**Practical skills development (independent work of the student).**

Students independently interview and examine thematic patients. The teacher controls their work. The results of the inspection are recorded in a workbook.

**Practical training on a clinical basis**

**The scheme of supervision of a patient on a medical ward**

When making a fragment of the medical history, students should follow the recommended scheme of patient supervision in the therapeutic department. The medical history should be clearly and consistently written in the form of a presentation. It is necessary to conduct a complete examination of the patient's system by physical methods of research, applying for this purpose, in the study of each organ system, in strict sequence, examination, palpation, percussion and auscultation. The text of the medical history should be written in a neat, clear and legible hand, without abbreviating words. The following requirements must be met:

* Accuracy and consistency of presentation;
* Comprehensive completeness of the necessary information;
* Clarity of presentation;
  + All subheadings of the medical history sections should be highlighted;
  + There must be wide margins for the teacher's comments.

Sample

Title page

FSBEI of HE

"OSMA" Health Ministry of Russia

Department of Propaedeutics of Internal Diseases

Head of the Department Professor,

Doctor of Medical Sciences K. M. Ivanov

Teacher\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fragment of writing a medical history

Completed by the student\_\_\_\_\_\_\_\_of the group

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(last name, first name, patronymic of the student)

Orenburg, 2020

Name of the medical institution:

Non-governmental health care institution "Department clinical hospital of JSC" Russian Railways " on the station Orenburg

Date of admission of the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Last name, first name, patronymic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Age\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Gender\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Nationality \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Education \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Profession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Current position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Home address of the patient and close relatives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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9. Who referred the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. The diagnosis that was sent to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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11. Preliminary diagnosis upon admission to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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12. The final clinical diagnosis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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THE PATIENT'S COMPLAINTS

List the complaints that the patient himself notes at the time of the interview or noted at the time of admission to the clinic. First, you need to identify the main (leading) complaints, then the general ones. On the basis of the submitted complaints, make an assumption about the defeat of which system is in question (the respiratory system, blood circulation, etc.). Clarify whether there are any other complaints that characterize the pathology of this system, but which the patient did not mention.

It is necessary to specify the complaints.

Complaints of respiratory system damage: nasal breathing: difficulty, complete inability to breathe through the nose, feeling dry, runny nose-nasal discharge (quantity, nature, smell). Feeling of dryness and pain in the throat when speaking, swallowing; voice disturbance (hoarse, lack of voice). Chest pain: its location, the nature of the pain (acute, dull, stabbing, aching, shooting), intensity, duration, the effect on them of movement, body position, breathing and coughing, their irradiation. Shortness of breath: continuous or periodic, the appearance or increased shortness of breath when walking fast when climbing the stairs, the strength and duration of dyspnea, the appearance or strengthening it in horizontal or vertical position, the nature of dyspnea (expiratory, inspiratory, combined). Suffocation: time of appearance, strength, duration. Cough and its features: persistent or intermittent, dry or with sputum (wet). Sputum leaves freely or with difficulty, evenly or after particularly strong attacks; the time of departure (morning, afternoon, evening), the amount (per day and at a time), the smell and color of it, the allocation, depending on the position of the patient. Hemoptysis: time of occurrence, intensity, pure blood or mixed with sputum, amount of blood, character (liquid or clots), color (scarlet, black, yellow).

HISTORY OF THE PRESENT DISEASE

The section should reflect the time of occurrence of the disease and the dynamics of development before the start of curation. It is especially important to identify the symptoms, which, to some extent, allows you to decide whether the disease is acute or chronic. Through appropriate questions, it is necessary to find out: the beginning of the disease (when and how it began-suddenly or gradually), what were its manifestations, its further course (progressive or intermittent, for chronic diseases, the duration of periods of exacerbations, relapses, remissions).

It is necessary to establish the causes and reasons for the present deterioration of the disease (severe nervous tension, injuries, physical overload, eating errors, colds, and others).

Did you see a doctor, was treated and with what result, what additional tests were carried out (blood, urine, ECG, X-ray, etc.)? What were the diagnoses of the attending doctors?

Characteristics of the period preceding the present request for medical care (deterioration of the disease, the appearance of new symptoms, etc.). By

whom is the patient referred to the hospital? The nature of hospitalization (emergency, planned).

Work-expert history: whether and when the certificate of disability was issued at the time of admission to the hospital, how many days of disability.

HISTORY OF THE PATIENT'S LIFE

The question about the patient's life should begin with general biographical information: time and place of birth (geographical area), place of residence, if he changed them during his life.

Social history: the family environment in which he was born; the age of the parents, the previous illnesses. School years: when did you start studying, how did you study (how easy or difficult was it to learn), how long did you study? Did you do physical education and sports at school? General and special education of the patient. For men, service in the army.

Professional history: the beginning and nature of the work of a lifetime, professional harms in the past. Current working conditions (duration, mental or physical, night or day work). Characteristics of the working room (lighting, temperature, drafts, dust, presence of harmful substances). Use of days off, holidays. Living conditions.

Past illnesses, operations, injuries: their duration and severity, complications, ongoing treatment (in hospital, at home, outpatient, sanatorium-resort). Pay attention to venereal diseases, tuberculosis, viral hepatitis, HIV infection.

Family history: married, married, since when. For women, the beginning of menstruation, the nature and cycle of them. Pregnancies and births, stillbirths, abortions, their number, the cause of complications. Are there any living children, how many?

Heredity: it is necessary to find out the state of health of close relatives: father, mother, grandparents, sisters and brothers of the patient, children and grandchildren, sisters and brothers of the father and mother (if they died, at what age and from what causes).

Pay attention to diseases that especially affect the offspring: syphilis, tuberculosis, neuropsychiatric diseases, metabolic diseases, blood diseases, alcoholism, neoplasms.

Epidemiological history: find out whether there was contact with infectious patients (in the family, school, among neighbors, colleagues, etc.). Did you come in contact with sick animals? Ask where the patient eats (in the dining room, buffet, at home, what kind of water he uses (raw, boiled, from the water supply or from other sources). Whether he went to other cities or districts. Did any sick people come to the family from other places of residence?

Have you noticed any recent fever, vomiting, or stool disorders?

Allergic history: drug intolerance: the presence of itching, various rashes, swelling of the face after taking antibiotics and other medicinal products, food intolerance, seasonal appearance of a runny nose and lacrimation during the flowering of wormwood, ragweed, poplar.

Unhygienic bad habits: smoking (from what age he smokes and how many cigarettes a day), the use of alcoholic beverages and drugs (frequency, quantity, how he tolerates them).

Blood transfusion history: whether blood and blood substitutes were transfused, for what reason, how many times and in what quantity, whether there were complications on transfusions and how they were manifested. Whether the patient is a donor?

**Topic 3** Methods of examination of the patient: palpation of pulmonary, cardiac, renal, endocrine patients, patients with diseases of the gastrointestinal tract. Palpation of the lymph nodes, thyroid gland, chest (rigidity, soreness, voice tremor), apical, cardiac tremors, pulse, abdomen, liver, kidneys, spleen. Blood pressure measurement.

**Forms of ongoing monitoring of academic performance**

* written survey;
* oral interview;
* tests;
* the development of practical skills.

**Assessment materials of the current control of academic performance**

**Questions for the written survey:**

**Option 1**

1. What is a heartbeat?

2. Pulse characteristics?

3. Stages of deep palpation of the abdomen

**Option 2**

1. The characteristics of the apical impulse?

2. Systolic "cat purr"?

3. The sequence of deep palpation of the abdomen

**Questions for the oral survey**

1. What is a palpitation? Definition of it as a method of physical research.

2. The method of palpation of the lymph nodes, thyroid gland.

3. The method of palpation of the chest, its diagnostic value: soreness, rigidity, voice tremor.

4. Palpation of the apical and cardiac shock, pulse, pulse properties.

5. The clinical significance of the definition of voice tremor-amplification, attenuation, absence.

6. Methods of superficial and deep palpation of the abdomen.

7. Method of determining the free fluid in the abdominal cavity.

8. Method of palpation of the liver, spleen, and kidneys.

**Тестовые задания**

Option 1

1 # The attenuation of voice tremor is determined when:

+emphysema of the lungs

bronchitis

pneumonia

the syndrome of compression atelectasis

2# Normally, the apical push is located:

in the IV intercostal space, 1.5 cm inside of the left mid-clavicular line

+in the V intercostal space 1.5 cm inside from the left mid-clavicular line

in the V intercostal space along the left mid-clavicular line

in the IV intercostal space 1.5 cm inside from the left mid-clavicular line

3# In what stage of croup pneumonia does the voice tremor increase: resolution

stages, compaction

stages, high tide stages

4# The symptom of "systolic" tremor is characteristic of:

+stenosis of the aortic mouth

mitral stenosis of

mitral insufficiency

5 # Palpation "splashing noise" is characteristic of the following pathology:

+stenosis of the pylorus

erosive gastritis

peptic ulcer of the duodenum

6# The hernia of the" white " line of the abdomen is palpated by using:

+ indicative palpation

deep palpation

thrust palpation

7 # The cecum is palpated:

in the right iliac region

in the left iliac region

in the suprapubic region

at the level of the navel on both sides of the median line

8# The displacement of the apical push to the left is observed when:

+left ventricular

hypertrophy right ventricular

hypertrophy left atrial hypertrophy

Option 2

1# Increased voice tremor is typical for:

hydrothorax

+lung abscess in the stage of cavity

emphysema of the lungs

complete obturation atelectasis

2# The area of the apical push is normally:

0.5 cm

4cm

+2 cm

6cm.

3# Palpationally" plank-shaped " abdomen is characteristic of:

chronic gastritis

stomach ulcer disease

+perforated stomach ulcer

4# a Shortage of pulse palpation is determined when:

+atrial fibrillation

sinus tachycardia

sinus bradycardia

5# The symptom of "two hammers" is determined by palpation when:

+mitral stenosis

mitral insufficiency

stenosis of the aortic mouth

stenosis of the mitral mouth

6# The stages of deep palpation do not apply:

setting the hand

set the skin fold

+dive on the inhale

dive on the exhale

slide

7# On palpation, the positive Shchetkin-Blumberg symptom is characteristic of:

+the syndrome of "acute abdomen"

stenosis of the pylorus

peptic ulcer of the stomach and duodenum

8 # The symptom of "diastolic" tremor is characteristic of: aortic

stenosis

+mitral stenosis of

mitral insufficiency

**Practical tasks to demonstrate practical skills**

**Questions about practical skills**

1. Superficial palpation of the abdomen

2. Palpation of the cecum

3. Palpation of the sigmoid colon

4. Palpation of the transverse colon

5. Palpation of the descending intestine

6. Palpation of the ascending intestine

7. Palpation of the liver

8. Palpation of the spleen

9. Palpation of the kidneys

10. Point palpation, palpation of ureteral points

11. Palpation of the chest, its tasks.

12. Palpation of the apical push

13. Palpation of the heartbeat

14. Palpation of the thyroid gland

15. Palpation of the lymph nodes

16. Palpation of the stomach

17. Inspection and palpation of the joints

18. General inspection

19. Examination and palpation of the chest

20. "Cat purr", palpation of its species

21. Blood pressure measurement, pulse palpation

Perform palpation according to the rules described below.

When performing palpation, certain rules must be strictly observed. The doctor's hands should be warm (cold causes reflex muscle contraction), dry, with clipped nails, hand movements-smooth, any increase in pressure-gradual. Palpation can be performed in the position of the patient lying on his back, lying on his side and in an upright position.

Depending on the goals pursued, two types of palpation are used: superficial and deep.

Surface palpation of the skin, joints, chest, abdomen is used as a general, indicative study.

Deep palpation is used for a more detailed study of the organ. The most fully developed deep, sliding methodical palpation of the abdomen. A type of deep palpation is a penetrating palpation used to determine soreness at certain points in the abdomen. It is performed by pressing with one finger, directed perpendicular to the abdominal wall. The most frequently examined are the appendicular point of McBurney (at the border of the lower and middle third of the line connecting the navel with the tip of the ilium), the cystic point (at the intersection of the outer edge of the rectus abdominis and the right costal arch) and the pyloroduodenal point (located two transverse fingers to the right and up from the navel).

Push-like palpation is used to determine the balloting of dense bodies in the abdominal cavity with the accumulation of fluid in it, the patella with effusion in the knee joint.

Sliding palpation according to V. P. Obraztsov is used to study the abdominal organs.

Palpation of the lymph nodes: palpation of the lymph nodes is carried out in parallel with the examination and makes it possible to determine the degree of enlargement, consistency, soreness, mobility and their solidity with the skin. The method of palpation consists in examining all areas where the lymph nodes available for palpation may be located, from top to bottom, starting from the head. Palpate the areas of localization of the occipital, parotid, submandibular, sublingual, chin, posterior cervical, anterior cervical, supraclavicular, subclavian, axillary, ulnar, inguinal, popliteal lymph nodes. Palpation of the lymph nodes is performed with both hands on symmetrical areas. Palpate the lymph nodes with the fingertips, making them sliding circular movements in the area of the intended localization of this group of lymph nodes and, if possible, pressing them to denser formations (bones, muscles). When palpating the axillary lymph nodes, first take the patient's hand to the side and place the semi-bent fingers of the examiner in the axillary region. Then they bring the patient's hand to the chest and try to probe the lymph nodes with one sliding movement of the hand from top to bottom.

Palpation of the thyroid gland: the doctor is located in front of the patient. Before palpation, the area of the thyroid gland is examined, in order to detect its visible increase in the eye. First, the isthmus of the thyroid gland is palpated by sliding the thumb of the right hand from top to bottom, and then the lateral lobes, penetrating the inner edges of the sternocleidomastoid muscles. You can ask the patient to make a swallowing movement, which facilitates palpation. Palpation of the thyroid lobes can be performed with the bent fingers of both hands (2 and 3 fingers), penetrating the inner edges of the sternocleidomastoid muscles, and reaching the posterolateral surface of the lateral lobes of the gland. In this case, the doctor is located behind the patient.

When examining the muscles, they evaluate: the degree of muscle development, tone, strength, and soreness of the muscles when feeling them. Palpating the bones, determine their shape, the presence of deformities, soreness when feeling and pounding.

An objective examination of the joints determines: the configuration, swelling, pain when feeling and moving, the volume of active and passive movements in the joints, changes in the skin and subcutaneous tissue in the joints. Examination of the musculoskeletal system must necessarily be preceded by a study of the general condition of the patient. It is necessary to pay attention to its constitutional type: for example, persons with a hypersthenic constitution are more prone to dystrophic diseases of the joints. Signs of endocrine diseases may indicate the possibility of various endocrine arthropathies. Pay attention to the condition of the skin, for example, peeling, hyperpigmentation are characteristic of rheumatoid arthritis, plaques on the extensor surfaces of the elbow, knee joints, and scalp-for psoriatic lesions.

Palpation of the chest allows you to detect soreness (local or diffuse), assess elasticity( resistance), voice tremor, and catch the noise of pleural friction.

Palpation in the study of the cardiovascular system is of great diagnostic importance, as it allows you to identify a number of diagnostic criteria that characterize the heart and blood vessels. Palpation of the heart area allows you to determine the apical push and other pulsations. Palpation of the apical push: the apical push is formed as a result of the fact that during the contraction of the heart muscle is compacted and in its movement from behind to front and from left to right, the tip hits the anterior chest wall. The apical push is palpated in about 50% of healthy individuals. To determine the apical push, the palm of the right hand with the thumb withdrawn is placed horizontally under the left nipple, the base of the hand to the sternum,and the fingers to the armpit. Then the 2nd and 3rd fingers, located perpendicular to the surface of the chest, specify the localization, area, force and height of the push, moving the fingers along the intercostals towards the sternum. When determining the apical push in women, it is necessary that the patient raises the left breast with her right hand. Other pulsations in the heart: there is no retrosternal pulsation in healthy individuals. If it is present, it indicates the presence of a heart attack. It is caused by strong contractions of the heart, more often the right ventricle, since it is directly attached to the anterior chest. Pulsation in the jugular fossa is determined by an aortic aneurysm, insufficiency of the semilunar aortic valve. In this case, it is necessary to bring the II-III fingers of the right hand behind the handle of the sternum in the area of the jugular fossa. The patient's head should be tilted and the shoulder girdle raised. Epigastric pulsation - visible to the eye pulsation in the epigastric region, synchronous with the activity of the heart. Epigastric pulsation may depend on hypertrophy of the right ventricle, from fluctuations in the wall of the abdominal aorta and the pulsation of the liver. With hypertrophy of the right ventricle, it is localized under the xiphoid process and becomes more distinct with a deep breath. With an abdominal aortic aneurysm, the pulsation is detected slightly lower and is directed from behind forward. Pulsation of the abdominal aorta can also be detected in healthy people with a thin abdominal wall. The pulsation of the liver that is felt in the epigastrium, sometimes the gear and true. The transfer pulsation of the liver is caused by contractions of the hypertrophied right ventricle. True liver pulsation is observed in patients with tricuspid valve insufficiency, when there is a reverse flow of blood from the right atrium to the inferior vena cava and liver veins (positive venous pulse). At the same time, each contraction of the heart causes it to swell. In the area of the heart, you can palpate a sound phenomenon called "cat purring". "Cat purr" occurs as a result of the turbulent flow of blood through the narrowed opening of the valve and the shaking of the walls of the heart. To detect it, you need to put your palm flat on the sternum, preferably in the chest position on the exhalation. There are presystolic and systolic tremors. Diastolic (or presystolic) is determined in the lower third of the sternum with mitral stenosis. Systolic tremor is detected in the upper third of the sternum at the base of the heart with stenosis of the aortic mouth.

The parameters of the arterial pulse can only be determined by palpation. At the same time, the pulse is understood as the rhythmic filling of the artery into the systole of the ventricles of the heart, which is somewhat delayed relative to the I tone of the heart (systole). For a clear palpation of the pulse, it is necessary that the artery lies superficially above the dense surface (bone), palpation should be available for a significant length of the artery. All these conditions are met by the radial, temporal arteries and the arteries of the back of the foot. It is necessary to start palpation simultaneously on both hands to determine the same pulse. Then the doctor being to the right of the patient, the right hand must take the patient's arm so that 2- 3- 4-th fingers were in the lower part of the radial artery, and the thumb on the opposite side supported the brush. The patient's hand should be at the level of the heart. If the pulse filling is greater on the left hand, then the left radial artery is palpated. Determine the following properties of the pulse: frequency; rhythm; filling; tension; uniformity (sameness) on both hands; the state of the vascular wall outside the pulse wave. Palpation of the abdomen allows you to get information about the localization of the abdominal organs, their shape, size, consistency and soreness.

Rules of palpation of the abdominal wall and abdominal organs:

- the doctor sits to the right of the patient on a chair placed next to him (not on the bed), facing the patient, watching his reaction;

- the patient lies on a hard bed (on a soft bed, the trunk bends, the pelvis falls, it is difficult to evenly relax the muscles). The head together with the shoulders should be slightly raised, being on the pillow. The arms are loosely positioned along the torso. The legs are extended or slightly bent at the hip and knee joints with an emphasis under the feet or a cushion under the knees;

- the doctor's hands should be warm, so as not to cause a reflex contraction of the abdominal press, with short-cropped nails. The doctor's hand is placed on the abdomen on the slightly bent 2-3-4-5 th fingers (the base of the palm above the anterior abdominal wall, the thumb does not participate in palpation).

Palpation of the anterior abdominal wall should begin with a superficial, indicative palpation. The study begins with the left iliac region, then moves to a symmetrical section of the right iliac region, and gradually rising up (2-3 cm), palpate all parts of the abdomen. You can go around the abdomen counterclockwise, starting from the left iliac region and ending in the right iliac region. After that, palpation is performed along the median line from the epigastric region to the suprapubic region.

With superficial palpation, the tension of the abdominal wall is determined, its soreness in a particular area, sharply enlarged liver or spleen, large tumors, divergence of the rectus abdominal muscles, hernial protrusions and tumor-like formations located superficially.

Deep, sliding, topographic, methodical palpation, developed by V. P. Obraztsov and N. D. Strazhesco, allows you to determine the location, size, shape, and consistency of the abdominal organs. The essence of the technique is that the doctor dips his fingers deep into the abdomen, trying to press the examined organ to the back wall of the abdominal cavity or bone in order to limit its mobility and get a clearer feeling. During palpation, the right hand is placed flat on the anterior abdominal wall perpendicular to the axis of the examined part of the intestine or to the edge of the organ. The patient is offered to breathe deeply "belly". During the inhalation, the doctor, moving the skin, gathers the skin fold (so as not to restrict the movement of the hand). During exhalation, the hand is slowly immersed deep into the abdominal cavity, painlessly approaching the posterior abdominal wall for the patient. You can enter the abdominal cavity gradually in a series of 3-5 deep breathing movements. After that, they make sliding movements with their fingers across the examined organ. At the moment when the fingers slip off the organ, a feeling arises that makes it possible to judge its localization, shape and consistency. Deep methodical palpation is performed in a strict sequence: first, the sigmoid colon is palpated, then the caecum, the final part of the ileum, the transverse colon, the ascending and descending part of the colon, the stomach, pancreas, liver, spleen and kidneys.

The sigmoid colon is palpated in the left iliac region. The first method: four closed, slightly bent fingers of the right hand are placed perpendicular to the axis of the sigmoid colon, which is located obliquely in the left iliac region, while the base of the palm is located on the outer surface of the ilium. During the patient's inhalation, a skin fold is formed by moving towards the navel (away from itself). After this, during the exhalation, try to sink the fingertips as deep as possible into the abdominal cavity so that they approach its back wall. Then, with a movement of the hand from inside to outside and from top to bottom, sliding along the posterior abdominal wall, they "roll" through the intestine. It is at this moment that the tactile impression of the features of the probed segment is formed. The second method: four closed, slightly bent fingers of the right hand are set perpendicular to the axis of the sigmoid colon, with the base of the palm facing the midline of the abdomen. During the inhalation of the patient, the movement on itself forms a skin fold. After that, during the exhalation, the fingertips sink into the abdominal cavity to its back wall and, with the subsequent inhalation, as if lift the intestine to the crest of the ilium. The sigmoid colon is felt in 90-95% of healthy individuals in the form of a smooth, elastic cylinder as thick as a thumb. In pathology, the spasmodic intestine can be felt as dense, painful, sometimes clear-cut or lumpy. It can be bloated, purring. With splices or scars of the mesentery, the sigmoid colon may lose mobility.

When palpating the cecum, located in the right iliac region, use the same technique as when feeling the sigmoid colon, changing only the direction of movement of the examining hand. The palm is placed on the outer surface of the right ilium and the fold is typed from itself. The intestine is pressed against the posterior abdominal wall and the ilium. The cecum is normally felt in 79 % of cases in the form of a smooth, slightly expanding cylinder with a diameter of 3-5 cm, painless and mobile, rumbling when pressed. In pathology, it can be extremely mobile due to congenital elongation of the mesentery or immobile due to inflammation around it. Inflammation of the cecum is accompanied by its swelling, increased rumbling, the appearance of soreness and compaction. In tuberculosis and cancer, it becomes very dense, lumpy.

In the study of the transverse colon, bilateral palpation is used. The doctor's hands lie on both sides of the rectus abdominis at the level of the navel, although it is advisable to first find the lower border of the stomach and retreat from it by 2-3 cm down. The fold during the inhalation is collected from yourself and gradually immerse your fingers in the abdominal cavity on the exhalation. When they reach the back wall of the abdominal cavity, they slide down it as they inhale, trying to feel the intestine under their fingers. The normal transverse colon is probed in more than half of healthy people (60-70%), in the form of a soft cylinder with a width of 3-5 cm, painless, easily shifting up and down. In colitis, the transverse colon is palpated dense, contracted and painful. In the cancer process, it is thickened and lumpy. If there is a narrowing or violation of patency below it, then the transverse colon remains smooth and elastic, but increases in volume, peristalts and rumbles loudly.

For palpation of the ascending part of the colon, the left hand is placed under the lower back, and the right hand is placed in the right side of the abdomen, facing the base of the palm outward, with the fingers-to the navel. Synchronously with the patient's breathing, they draw the skin fold away from themselves and immerse the hand in the abdominal cavity until it comes into contact with the left hand and on inspiration they slide in the lateral direction until there is a feeling of contact with the intestine.

For palpation of the descending part of the colon, the left hand is placed under the lower back, and the right hand is placed in the left side of the abdomen, facing the base of the palm to the navel, fingers outward. Synchronously with the patient's breathing, they draw a skin fold away from themselves and immerse the hand in the abdominal cavity until it comes into contact with the left hand and, on inspiration, slide in the medial direction (to the navel) until there is a feeling of contact with the intestine. These segments of the intestine are probed in the form of elastic, painless cylinders.

Palpation of the stomach is very complex. V. P. Obraztsov believed that a large curvature is palpable only in 50-60% of people, and a small one only with a pronounced omission of the stomach. Palpate the stomach can be in the standing and lying position. To palpate a large curvature, it is necessary to find the lower border of the stomach, using percussion palpation or auscultative percussion (see the section "Percussion"). Palpation of the stomach is performed in the epigastric or mesogastric region, given that the large curvature of the stomach is determined in the form of a roller lying on the spine and on the sides of it. Therefore, the large curvature of the stomach is palpated along the midline and on both sides of it, moving the skin of the abdomen up on the inhale, and dipping the hand deep into the abdominal cavity towards the back wall of the abdomen on the exhale. On inhaling, the large curvature of the stomach slips out from under the fingers and gives the feeling of a soft, thin fold located on both sides of the midline 3-4 cm above the navel. When the stomach is lowered, it is found below the navel.

Palpation of the pancreas is performed in the patient's lying position after cleansing the intestines with a cleansing enema and, if possible, gastric lavage. The normal pancreas can be palpated very rarely (with pronounced omission, flabby abdominal wall). In these cases, the gland is palpated in the form of a completely stationary string 1-2 cm thick, located horizontally on the posterior abdominal wall in the upper half of the abdomen. Palpation of the pancreas can be superficial and deep. With superficial palpation, a number of symptoms of acute pancreatitis can be detected. This is a pronounced soreness in the right and upper parts of the epigastrium, sometimes extending to the left. On the second day of the disease, muscle tension usually appears. Sometimes it is possible to identify the area of soreness and muscle tension corresponding to the projection of the pancreas (Kerte's symptom). With deep palpation according to Obraztsov-Strazhesco, it is usually possible to feel only an enlarged and compacted pancreas. To do this, first you need to determine the lower border of the stomach, above which the pancreas is located by 2-3 cm. Then, when inhaling, they dial the skin fold up, when exhaling, they penetrate into the depth of the abdomen until they get a feeling of its dense back wall. Leaving the fingers in the same position during the subsequent breath, produce a sliding movement from top to bottom.

The study of the liver is carried out in the position of the patient lying on his back, the hand is on the chest. In some cases (for example, ascites, flatulence), palpation is better performed in an upright position. The patient should stand slightly leaning forward and breathe deeply. Palpation of the liver is performed bimanually. To do this, the left hand covers the right rib arch (the lower two ribs), which limits the expansion of the chest during inspiration, contributing to an increase in the amplitude of the movement of the liver in the vertical direction. The palm of the right hand along the midclavicular line is placed flat on the right iliac region, the fingers slightly bent, located on the same line, are placed parallel to the defined edge of the liver. On the inhale, the skin fold is typed on itself, on the exhale, the fingers are immersed deep into the abdomen, forming a kind of"pocket". With the subsequent deep breath (which the patient makes at the request of the doctor), the liver, falling down, slips out of the" pocket", making it possible to determine the position, consistency, soreness of its lower edge. If the fixed fingers do not meet the edge of the liver during the inhalation period, then the hand should be gradually moved to the right hypochondrium, repeating the manipulation until it comes into contact with the organ. If the edge of the liver is located below the costal arch, it should not be limited to palpation only along the midclavicular line, it is necessary to trace it to the right and left, as far as possible. In the presence of an enlarged and compacted liver, its edge can be determined regardless of the phases of respiration.

The spleen is examined in the patient's back position, with the arms and legs extended. With the left hand, placing the palm on the area of the VII-X left ribs, the doctor restricts, if possible, the mobility of the chest. The right palm is placed flat on the stomach, perpendicular to the costal arch, so that the index and middle fingers are approximately at the place where the X rib is attached to the costal arch. Palpation uses the same technique as palpation of the liver. On the inhale, the skin fold is typed on itself. During the exhalation, the hand is slowly immersed in the left hypochondrium and, leaving the fingers in place, the patient is asked to take a deep breath. At this point, there is a certain tactile sensation. If the spleen is not palpable in the patient's position on the back, the study is carried out in the position on the right side. The patient is offered to put his hands under his head and bend his left leg in the hip and knee joints, straightening the right one. The doctor repeats the palpation according to the same method. In a healthy person, the spleen is not palpable. An increase in the spleen is observed in acute infectious diseases, blood diseases, malaria, cirrhosis of the liver. In chronic infectious diseases, blood diseases, the spleen becomes dense, the edge often retains a rounded shape.

The kidneys are located on the posterior abdominal wall and are covered by the costal arch, so their palpation in a healthy person is extremely difficult. In a healthy person, the kidneys can be palpated in the case of a sharp weight loss or a significant weakening of the abdominal press. Palpation of the kidneys is performed bimanually in two positions of the patient, horizontal and vertical (according to Botkin), adhering to the general principles of deep palpation. Palpation of the kidney in a horizontal position. For palpation of the right kidney, the left hand is placed with the palm surface on the right half of the lumbar region immediately below the XII-th rib. The slightly bent four fingers of the right hand are placed directly below the costal arch to the outside of the edge of the rectus abdominis muscle. With each exhalation, the doctor tries to move the fingers of the right hand to the back wall until they feel contact with the fingers of the left hand. With the left hand, the doctor lifts the lumbar region anteriorly, thereby bringing the kidney closer to the right hand. With the maximum convergence of the hands, the patient is offered to take a very deep breath with his stomach. At this point, the kidney descends, finding itself under the fingers of the right hand, which perform a sliding movement down, probing the lower pole of the organ, less often-the entire kidney. Palpation is performed parallel to the spine. The kidney is palpated as a dense, elastic formation. If the kidney can be held between the hands, you can assess the degree of its displacement. For palpation of the left kidney, the doctor's left hand moves under the left half of the patient's lower back, the right hand is palpated according to the described method. The method of palpation of the kidneys in an upright position was proposed by S. P. Botkin. The patient is facing the doctor, the abdominal muscles are relaxed, the trunk is slightly tilted forward. The doctor sits directly in front of the patient. The same technique is used as in the prone position. In the standing position, due to gravity and the pressure of the descending diaphragm, the kidneys become more accessible for palpation, but detailed palpation is difficult due to the tension of the abdominal press. Therefore, palpation of the kidneys is carried out in both horizontal and vertical positions. Sometimes the probing of the kidney is possible only thanks to a special method – balloting (the Guyon method). To the above described techniques of conventional bimanual palpation, rhythmic jerky movements of the fingers of the left hand are added. Quick and short blows are applied to the lumbar region in the corner between the costal arch and the long muscles of the back. The fingers of the right hand will feel the vibrations of the kidney. Normally, the kidneys are not palpated.

With a significant accumulation of urine in the bladder, especially in persons with a thin abdominal wall, the bladder is palpated over the pubis in the form of an elastic fluctuating formation. With a significant overflow, the upper border of the bladder can be palpated at the level of the navel.

With the accumulation of free fluid in the abdominal cavity, a balloting (push-like) palpation is performed in the supine position. The left hand is placed flat on the side surface of the abdominal wall, and the fingers of the right hand are applied to the abdominal wall from the opposite side. If there is fluid in the abdominal cavity, then the vibrations of the fluid and internal organs are given to the other hand ("wave symptom"). If the assistant puts the brush edge on the middle of the abdomen, the transmission of vibrations stops.

Practical skills development (independent work of the student).

Students independently interview, examine and palpate thematic patients. The teacher controls their work. The results are recorded in a workbook.

**Topic 4** Methods of research of the patient: methods and techniques of percussion. Classification of percussion sounds. Percussion of the lungs (comparative and topographic).

**Forms of current monitoring of academic performance:**

- written survey;

- oral interview;

- practice of practical skills.

**Assessment materials of the current control of academic performance**

**Questions for the written survey:**

**Option 1**

1. Write a classification of percussion sounds.

2. List the identification percussion lines.

3. Write the normal size of the diameter of the heart?

**Option 2**

1. Types of percussion, depending on the percussion stroke?

2. Write the normal position of the lower borders of the lungs.

3. Write the normal values of the percussion size of the liver according to Kurlov

**Questions for the oral survey**

1. Definition of the percussion method.

2. Physical basics of percussion.

3. Percussion techniques.

4. Basic rules of percussion.

5. Basic percussion sounds, their characteristics.

6. The methodology of comparative percussion of the lungs.

7. Methods of conducting topographic percussion of the lungs.

8. Determination of the height of standing of the tops of the lungs and the width of the Krenig fields.

9. Determination of the lower limits of the lungs.

10. Determination of the mobility of the lower pulmonary margin

General rules and methods of performing lung percussion.

**Typical practical tasks for testing skills:**

**1. Percussion of the lungs (comparative and topographic)**

Perform percussion according to the rules described below.

The middle finger of the left hand is used as a plessimeter, and the blows are applied with the middle finger of the right hand. This method of percussion allows you to evaluate the change in percussion sound not only by hearing, but also by touching with a plessimeter finger. When tapping on a part of the body, vibrations of the underlying media occur. Basic rules of percussion:

- The middle finger of the left hand, the plessimeter finger, is applied tightly throughout without much pressure. The other fingers should not be pressed against it.

- The percussion blow is applied by the movement of the hand in the wrist joint with the middle finger of the right hand along the middle phalanx of the plessimeter finger, strictly perpendicular to it. It is necessary to strike two blows (approximate and estimated). The blows should be of equal force, short and jerky. The nail of the hammer finger should be cut short to avoid injury.

Depending on the goals, there are two types of percussion: topographic and comparative.

Comparative percussion is aimed at identifying the presence of pathological changes in the symmetrical areas of the lungs, pleural cavities, and abdominal cavity. Comparative percussion is used to determine the nature of the percussion sound and its similarity in symmetrical areas of the chest.

In topographic percussion, the boundaries and dimensions of organs or formations are determined. When performing topographic percussion, the following rules must be observed:

- when determining the boundaries of the percutaneous organ, the finger-plessimeter is placed parallel to the desired border of the organ;

- percussion is always carried out from a clear sound to a dull one;

- the border of the organ should be marked on the outer edge of the finger-plessimeter, facing the zone of clear sound.

Percussion of the lungs is most convenient to perform with a calm vertical (standing or sitting) position of the patient. His hands should be lowered or placed on his knees. When topographic percussion of the lungs is determined: the height of the apices standing in front and behind, the width of the apices (Krenig field), the position of the lower edges of the lungs and their mobility (excursion of the lower edge). The height of the tops standing in front. The plessimeter finger is placed above the clavicle (parallel to it) and from its middle is percuted upwards and medially until the sound is blunted along the outer edge of the sternocleidomastoid muscle. Normally, the upper border of the lungs in front is located 3-5 cm above the clavicle.

When determining the height of the standing of the tops from behind, the finger-plessimeter is placed directly above the tip of the scapula, parallel to its spine. The middle of the middle phalanx is located above the middle of the inner half of the spine. The finger-plessimeter is moved along the line connecting the middle of the inner half of the spine of the scapula and the spinous process of the VII-th cervical vertebra. Normally, the height of the apices of the lungs standing behind is at the level of the spinous process of the VII-th cervical vertebra.

Determining the width of the apex of the lung (Krenig field), the plessimeter finger is placed perpendicular to the front edge of the trapezius muscle above the middle of the clavicle. Percute first in the medial direction until a dull sound appears (the inner boundary of the Krenig field). After that, return the plessimeter finger to its original position and percute outward until a dull sound appears (the outer boundary of the Krenig field). Normally, the width of the Krenig field is 4-6 cm.

The determination of the lower border of the right lung begins with the peritoneal line. The position of the plessimeter finger should be such that the circumflex line crosses the middle of its middle phalanx perpendicular. Percussion is performed from top to bottom sequentially along the near-sternal, mid-clavicular, anterior, middle, posterior axillary, scapular, and parotid lines from clear to dull sound. Percutaneous determination of the lower border of the left lung is carried out similarly to the definition of the borders of the right lung, but with two features. First, its percussion along the near-sternal line corresponds to the IV intercostal space (cardiac dullness). Secondly, along the anterior and middle axillary lines, percussion stops when the clear pulmonary sound changes to a tympanic sound. This feature is due to the influence of the gas bubble of the stomach, which occupies the Traube space.

The mobility of the pulmonary margin can be determined by any of the topographic lines, but usually limited to determining the mobility of the lower edge only by the middle or posterior axillary lines, where it is greatest. The patient is standing or sitting with his hands clasped and raised on his head. First, the lower border of the lung is determined with calm breathing (see the technique above). Then, without removing the finger-plessimeter, suggest the patient to take a very deep breath and hold the breath and percute down to a dull sound. The border is marked with a demographer (pencil) on the upper edge of the plessimeter finger. After that, the patient is offered to make a very deep exhalation and hold his breath. Percute upward until a clear percussive tone appears. The distance between the level of the lower borders of the lungs at the maximum inhale and exhale is the mobility (excursion) of the pulmonary edge. The maximum mobility of the lower pulmonary margin along the middle and posterior axillary lines is normally 4-8 cm. In comparative lung percussion, percussion tones are evaluated and compared on symmetrical areas of the chest. If it is possible to identify the affected side based on complaints and examination data, comparative percussion should start from the healthy side. With comparative percussion, medium-strength blows are applied. The patient's hands should be lowered. The plessimeter finger is placed in the supraclavicular fossa parallel to the clavicle, and the hammer finger is struck. After that, the plessimeter finger is moved to the symmetrical supraclavicular fossa. Then the blows are applied to the symmetrical areas of the clavicles, subclavian pits, and the anterior surface of the chest in the I-II-III intercostals. At the same time, the plessimeter finger is placed on the intercostal space, parallel to the ribs, slightly pressing into the intercostal space. The middle of the middle phalanx should be on the midclavicular line. After that, the symmetrical sections of the thorax in the IV-V-VI-VII intercostals are percutated, gradually moving to the lateral sections. The patient's hands at this point should be folded in the lock and raised on his head. Comparative percussion of the lungs from behind. The patient should cross his arms on his chest, so that the displaced shoulder blades expose the inter-scapular space. Percussion begins with the supra-scapular areas (the finger-plessimeter is placed parallel to the spine of the scapula). Then percuteret symmetrical plot in the interscapular space. In this case, the plessimeter finger is placed on the chest parallel or perpendicular to the spine at the edge of the displaced shoulder blade. After that, percussion is performed under the shoulder blades at the level of the VII-VIII and IX intercostals (the finger-plessimeter is placed parallel to the ribs). Normally, comparative percussion over the lung tissue produces a clear (pulmonary) sound. The strength and height of the lung sound vary depending on age, the shape of the chest, muscle development, and the size of the subcutaneous fat layer. Percussion of the heart is most convenient to perform with a calm vertical (standing or sitting) position of the patient. His hands should be lowered or placed on his knees.

**Practical skills development** (independent work of the student).

Students independently percute thematic patients. The teacher controls their work. The results are recorded in a workbook.

**Topic 5** Methods of research of the patient: percussion of the heart: the boundaries of relative and absolute dullness, the diameter of the heart, the width of the vascular bundle. Percussion of the liver by Kurlov. Percussion of the size of the spleen.

**Forms of current control of academic performance oral survey, tests, practical skills**

**Assessment materials of the current control of academic performance**

**Questions for the oral survey:**

1. Basic rules of the percussion of the heart.

2. The concept of relative cardiac dullness.

3. The concept of absolute heart dullness. Its boundaries are normal. Determination technique.

4. Percutaneous determination of the width of the vascular bundle and the diameter of the heart.

5. The method of determining the three sizes of the liver according to Kurlov and the size of the spleen.

**Test tasks**

**Option 1**

1# When tapping the chest above the intended area of the heart, percussion sound:

clear pulmonary

+blunt, blunted

box

tympanic

2# When the chest is tapped over the emptied lung cavity (lung abscess cavity or cavern in pulmonary tuberculosis), a percussive sound is expected:

blunted

dull

clear pulmonary

+Tympanic

3# What percussive sound is obtained over healthy lungs:

tympanic

+clear blunt

blunt

4# What department of the heart is formed by absolute cardiac dullness: the

left ventricle

left atrium

+the right ventricle with the

right atrium.

5# Where is the right border of relative cardiac dullness in the IV hypochondrium:

at the edge of the sternum

4 cm outwards from the edge of the sternum

+ 1-2 cm outward from the edge of the sternum

along the left edge of the sternum

6# What percussive phenomena are characteristic of stage 2 croup pneumonia:

clear pulmonary sound

tympanic sound

+dumb sound

7# Smoothness of the "waist" of the heart occurs when:

+ mitral stenosis

aortic stenosis

aortic insufficiency

8# The limit of absolute cardiac dullness increases when:

+hypertrophy of the right ventricle

left ventricular hypertrophy

hypertrophy of the right atrium

**Option 2**

1# When tapping the lower parts of the chest of a patient with emphysema of the lungs, the percussion sound:

blunted

dull

+ boxed

tympanic

2 # Comparative lung percussion is performed to determine:

boundaries of light

+the presence of a pathological focus

mobility of the lower pulmonary margin

3# the Left contour of the stupidity of the heart is formed by:

+the left side of the aortic arch, pulmonary trunk, left atrium and left ventricle

the left side of the aortic arch, left atrium and left ventricle

left part of the aortic arch and left ventricle

left ventricle.

4# The diameter of the heart is equal to: 2-

4cm

6-7cm

+11-13cm

1cm

5# The left border of the heart is formed by: the

tip of the right ventricle the

tip of the left ventricle the

left atrium

+left atrium and ventricle

6# The diameter and length of the spleen are normally equal, respectively:

+4-6 and 6-8 cm

3-4 and 5-7 cm

5-7 and 9-10 cm

7# With percussion of the lungs, the Elisa-Damoiseau line is determined:

hydrothorax

pneumothorax

+exudative pleurisy

8# What department of the heart is formed by absolute cardiac dullness:

left ventricle

left atrium

+the right ventricle with the

right atrium.

**Practical tasks to demonstrate practical skills**

**Questions about practical skills**

1. Pasternatsky's symptom

2. Comparative percussion of the lungs in the front

3. Comparative percussion of the lungs from behind

4. Determination of the percutaneous height of the standing of the apices of the lungs in front

5. Determination of percutaneous height of standing of the apices of the lungs from behind

6. Definition of Krenig fields

7. Determination of the lower border of the lungs by the mid-clavicular line

8. Determination of the lower border of the lungs along the mid-axillary line

9. Determination of the lower border of the lungs along the scapular line

10. Determination of the excursion of the pulmonary edge along the scapular line

11. Percussion of the right border of relative cardiac dullness

12. Percussion of the left border of relative cardiac dullness

13. Determination of the width of the vascular bundle

14. Determination of the diameter of the heart

15. Definition of absolute cardiac dullness

16. Determination of the first liver size according to Kurlov

17. Percussion of the spleen

18. Percutaneous determination of fluid in the abdominal cavity

19. Percussion of the liver by Kurlov

20. Percussion determination of the size of the diameter of the heart

21. Percussion of absolute heart dullness

General rules and methods of percussion of the lungs, heart, liver and spleen.

**Typical practical tasks for testing skills:**

1. Heart percussion: the limits of relative and absolute dullness

2. The diameter of the heart

3. The width of the vascular bundle

4. Percussion of the liver by Kurlov

5. Percussion of the spleen.

Perform percussion according to the rules described below.

Percussion of the heart is most convenient to perform with a calm vertical (standing or sitting) position of the patient. His hands should be lowered or placed on his knees. Heart percussion is performed to determine the size, position, and configuration of the heart and vascular bundle. Apply quiet percussion. Percute from top to bottom along vertical lines, as in determining the lower boundaries of the right lung.

In liver percussion, quiet percussion is used. To assess the size of the liver, M. G. Kurlov proposed to measure hepatic dullness along three lines. The first measurement is made along the right mid-clavicular line. Along the mid-clavicular line, the finger-plessimeter is set parallel to the intercostal space, above the obviously pulmonary tissue,and percutted down. The place of transition of a clear pulmonary sound to a blunted one corresponds to the upper border of the liver. After marking the border of the liver along the upper edge of the finger, the plessimeter finger is shifted down (to the level of the iliac crest) and percutted up along the mid-clavicular line. The place of transition of the tympanic percussion sound to the blunted one corresponds to the lower border of the liver. The size of the liver along this line is normally 9-10 cm.

In the two subsequent measurements, the upper point of hepatic dullness is conventionally assumed to be the intersection of the perpendicular drawn from the upper border of the liver along the right mid-clavicular line to the median line of the body. When determining the second size of the liver, the finger-plessimeter is set at the level of the navel (or below) along the median line and percutted up from the tympanite to dull the percussive tone. The second size of the liver according to Kurlov is 8-9 cm.

The third size of the liver is determined by the left costal arch. Finger-plessimeter is set perpendicular to the costal arch at the level of the VIII-IX ribs and percuteret right directly under the edge of the costal arch to the transition tympanic sound (in a region of space Traube) stupid. In a healthy person, this size is 7-8 cm.

With percussion of the spleen, the vertical and antero-posterior dimensions of the organ are determined. The study is carried out in the patient's position on the back or standing, as well as in the position on the right side. To determine the upper and lower boundaries, percussion is performed along the middle axillary line. The bluntness corresponding to the location of the spleen occupies the area from the ixth to the xith rib. The width of the spleen by percussion is determined by the 10th rib or parallel to it in the middle of the vertical size of the organ. It is 4-7 cm.

When percussion of the kidneys is used, the method of beating the fist of the right hand on the back of the left hand, placed on the lumbar region. You can make a beating directly with the elbow edge of the straightened palm of the right hand on the lumbar region. The feeling of pain in the lumbar region is a positive result of the study (a positive symptom of Pasternatsky).

**Practical skills development (independent work of the student).**

**Students independently percute thematic patients. The teacher controls their work. The results are recorded in a workbook.**

**Topic 6 Methods of research of the patient: methods and techniques of auscultation of the lungs. Auscultation of the lungs (the history of the issue, mediocre, direct), comparative auscultation of the lungs. The main and additional respiratory noises are normal and abnormal. The concept of bronchophony.**

**Forms of ongoing monitoring of academic performance:**

- written survey;

- oral interview;

-tests;

- practical skills.

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

**Option 1**

1. Describe vesicular respiration, the reasons for its strengthening?

2. Crepitation: causes, mechanism of occurrence, characteristics

**Option 2**

1. Pathological bronchial respiration, its types.

2. Classification of wheezing?

**Assessment materials of the current control of academic performance**

**Questions for the oral survey**

1. Auscultation as a method of physical examination.

2. History of auscultation. What is mediocre, direct auscultation?

3. The method of comparative auscultation of the lungs.

4. The main respiratory noises are normal and abnormal.

5. Side respiratory noises (wheezing, crepitation, pleural friction noise). The mechanism of education.

6. The concept of bronchophony.

**Test tasks**

Option 1

1# The auscultation method was first discovered:

By auenbrugger

+Lancom

by Corvisart

by Botkin

2# In emphysema of the lungs, respiration:

vesicular

bronchial

hard

+vesicular weakened

3# Why does the number of bass dry wheezes decrease after coughing:

bronchospasm decreases

, edema of the bronchial mucosa decreases

+the viscous sputum clears up

4 # Systolic murmur above the apex of the heart is characteristic of:

+mitral valve

insufficiency aortic valve insufficiency

mitral stenosis

aortic stenosis

5# When the lung tissue is compacted, respiration is detected:

weakened vesicular

+bronchial

hard

bronchovesicular

6# During auscultation, crepitation is heard:

only on inspiration

only on the exhalation

on the inhale and exhale

7# What causes the appearance of wet small-bubble non-ringing wheezes:

viscous sputum in large bronchi

viscous sputum in small bronchi and/or their spasm

liquid sputum in large bronchi or cavities communicating with the bronchus

+ liquid sputum in small bronchi with preserved airiness of the surrounding lung tissue

liquid sputum in the small bronchi and inflammatory compaction of the surrounding lung tissue

Option 2

1 # Bronchial breathing is heard:

on the inhale on

the exhale

+on the inhale and exhale

on the inhale and the first third of the exhale

2 # Dry wheezes are formed when:

the walls of the alveoli break apart

+swelling of the bronchial mucosa and their spasm the

presence of liquid sputum in the lumen of the bronchus

infiltration of lung tissue.

3 # Bronchial respiration of the "amphoric" type is listened to:

+ cavities in the lung, communicating with the bronchus

emphysema of the lungs

obturation atelectasis

hydrothorax

4# Normally, breathing is heard above the pulmonary fields:

bronchial

+ vesicular

weakened pulmonary

5 # Bronchial breathing is heard:

on the inhale on

the exhale

+on the inhale and exhale

on the inhale and the first third of the exhale

6# What is the purpose of using an additional technique for auscultation of the lungs – pressing a stethoscope on the chest:

+to distinguish pleural friction noise from crepitation and wheezing

to detect latent bronchial obstruction

to distinguish dry wheezing from wet wheezing

to distinguish wheezing from crepitation or pleural friction noise

for better listening to abnormal bronchial breathing

7 # A student at auscultation of a patient with chest pain listened to noises in both phases of breathing, resembling the crunch of snow under his feet. What is the name of this auscultative phenomenon:

+ noise of pleural friction

crepitation

dry wheezing

wet wheezing

bronchial respiration

8# Diastolic murmur above the apex of the heart is characteristic of:

mitral valve

insufficiency aortic valve insufficiency

+mitral stenosis

aortic stenosis

**Questions about practical skills**

**General rules and methods of auscultation of the lungs.**

**Typical practical tasks for testing skills:**

1. Auscultation of the lungs in front

2. Auscultation of the lungs from behind.

Perform auscultation of the lungs, according to the rules described below.

Rules and techniques of auscultation

• To obtain reliable results during auscultation, silence in the room is necessary, so that no extraneous noises drown out the sounds heard by the doctor, and a comfortable air temperature so that the patient can be without a shirt.

• During auscultation, the patient stands or sits on a chair, in bed. Severe patients are listened to in a lying position.

•It is necessary to seal the system "patient's body-doctor's ear". While listening to a stethoscope you tightly, the whole circle is placed on the skin of the patient, but does not provide very much pressure, doing so will weaken the vibration of tissue in the area of fit of the stethoscope, whereby also become quieter and listen to the sounds. The doctor holds the stethoscope tightly with two fingers. With thick hair, the area of the skin where listening is performed can be moistened with water, which eliminates the appearance of additional sounds.

• In some cases, you should use such techniques as listening to respiratory and cardiac noises after coughing, physical exertion, when holding your breath, changing your body position, etc. In particular, after sputum discharge, the previously heard wheezes in the lungs may disappear or change their character. During the study, in accordance with the task, the doctor can change the position of the patient. For example, diastolic murmur of aortic insufficiency is better heard in the patient's sitting or standing position, and diastolic murmur of mitral stenosis-if the patient is lying, especially on the left side. It is also necessary to regulate the patient's breathing, and in some cases he is offered to cough.

• One of the basic rules of auscultation requires that the doctor always use the device to which he is accustomed. It is also necessary to have sufficient theoretical knowledge of the doctor so that he can correctly interpret the sounds being listened to, and constant training, the acquisition of listening skills. Only in this case, auscultation as a method of research reveals to the doctor all its possibilities.

The sound phenomena heard during auscultation of the lungs that arise in connection with the act of breathing are called respiratory noises (murmura espiratoria). There are main (vesicular and laryngotracheal respiration) and secondary (crepitation, wheezing, pleural friction noise) respiratory noises.

Rules of auscultation of the lungs

•The patient's position may be different, but it is best to listen to a sedentary patient. The hands of the subject should be placed on the knees.

•Auscultation of the lungs begins with the anterior surface of the chest. Listen to strictly symmetrical areas, starting with the supraclavicular pits, gradually moving the phonendoscope down and to the sides to the mid-axillary line.

• Then listen to the posterior surface of the chest, starting with the supra-scapular areas, moving to the inter-scapular space and the sub-scapular area. In this case, the patient is asked to bring his hands together on his chest in order to "expose" the lung tissue in the inter-scapular space as much as possible.

• When auscultating the lungs, the main respiratory noises are first evaluated. At the same time, the patient should breathe deeply and evenly, through the nose, not very forcibly.

• Only after that, against the background of deep breathing through the mouth, determine the presence of additional noises - wheezing, crepitation, noise of pleural friction. For better differentiation of pathological noises, auscultation is repeated after coughing.

**Practical skills development (independent work of the student).**

**Students independently practice auscultation of the lungs. The teacher controls their work. The results are recorded in a workbook.**

**Topic 7** Methods of research of the patient: auscultation of the heart. The heart tones are basic and additional. The main properties of tones: strength, timbre, splitting, bifurcation, their change in pathology.

**Forms of ongoing monitoring of academic performance**

- written survey;

-oral interview;

-practical skills development;

-testing.

**Assessment materials of the current control of academic performance**

Questions for the written survey:

Option 1

1. Write the sequence of auscultation of the heart.

2. Describe the rhythm of the "gallop".

Option 2

1. List the characteristics of the heart tones.

2. Describe the rhythm of the "quail".

**Questions for the oral survey:**

1. The mechanism of formation of 1 and 2 heart tones, auscultative points.

2. Changes in heart tones in normal and pathological conditions (strength, timbre, splitting, bifurcation).

3. The concept of the rhythm of "quail" and "gallop", pendulum-like rhythm, embryocardia.

**Test tasks**

Option 1

1 # Amplification of the I tone at the apex of the heart (clapping) occurs in:

mitral valve

insufficiency aortic valve insufficiency

+mitral stenosis

aortic stenosis

2# The patient has cardiac asthma, on the basis of the heart is listened to:

accent of the second tone on the aorta

+ accent of the II tone on the pulmonary trunk

attenuation of the II tone on the aorta

attenuation of the II tone on the pulmonary trunk

3# What statement regarding auscultation of the heart is not true: the

sequence of listening to the heart valves is due to the frequency of valve damage

normally, the I and II heart tones are heard at all auscultative points

+after the I tone there is a long pause,

the sonority of the II tone is evaluated on the basis of the heart

4 # The weakening of the II tone in the II intercostal space on the right at the edge of the sternum occurs in all of these conditions, except for:

aortic stenosis

+ arterial hypertension

aortic valve insufficiency

hypotension.

5# Auscultation point of the second tone: the

tip of the heart;

+ second intercostal space on the right;

at the base of the xiphoid process;

Botkin-Erb point.

6# The components of Tone II are all listed, except:

vascular component

opening of the atrioventricular valves

+ contraction of the ventricles

closure of the semilunar valves

7# Listening point of the tricuspid valve:

II intercostal space on the right;

II intercostal space on the left;

+at the base of the xiphoid process;

the tip of the heart

Option 2

1# The rhythm of the gallop meets:

+severe heart damage

mitral valve prolapse

arterial hypertension

2# In which heart defect is the "rhythm of the quail" heard:

mitral insufficiency

+stenosis of the mitral orifice

aortic insufficiency

3# Auscultation point of the second tone: the

tip of the heart;

+ second intercostal space on the right;

at the base of the xiphoid process;

Botkin-Erb point.

4# The auscultation method was first discovered:

by Auenbrugger;

+Lancom;

by Corvisart;

Botkin.

5# Listening point of the tricuspid valve:

II intercostal space on the right;

II intercostal space on the left;

+at the base of the xiphoid process;

the tip of the heart

6# The patient has cardiac asthma, on the basis of the heart is listened to:

accent of the second tone on the aorta

+ accent of the II tone on the pulmonary trunk

attenuation of the II tone on the aorta

attenuation of the II tone on the pulmonary trunk

7# At what heart defect is the "rhythm of the quail" heard»:

mitral insufficiency

+stenosis of the mitral orifice

aortic insufficiency

**General rules and methods of auscultation of the heart.**

**Typical practical tasks for testing skills:**

1. Auscultation of the heart.

Perform auscultation of the heart, according to the rules described below.

**Rules and techniques of auscultation**

• To obtain reliable results during auscultation, silence in the room is necessary, so that no extraneous noises drown out the sounds heard by the doctor, and a comfortable air temperature so that the patient can be without a shirt.

• During auscultation, the patient stands or sits on a chair, in bed. Severe patients are listened to in a lying position.

• It is necessary to seal the system "patient's body-doctor's ear". While listening to a stethoscope you tightly, the whole circle is placed on the skin of the patient, but does not provide very much pressure, doing so will weaken the vibration of tissue in the area of fit of the stethoscope, whereby also become quieter and listen to the sounds. The doctor holds the stethoscope tightly with two fingers. With thick hair, the area of the skin where listening is performed can be moistened with water, which eliminates the appearance of additional sounds.

• In some cases, you should use such techniques as listening to respiratory and cardiac noises after coughing, physical exertion, when holding your breath, changing your body position, etc. In particular, after sputum discharge, the previously heard wheezes in the lungs may disappear or change their character. During the study, in accordance with the task, the doctor can change the position of the patient. For example, diastolic murmur of aortic insufficiency is better heard in the patient's sitting or standing position, and diastolic murmur of mitral stenosis-if the patient is lying, especially on the left side. It is also necessary to regulate the patient's breathing, and in some cases he is offered to cough.

• One of the basic rules of auscultation requires that the doctor always use the device to which he is accustomed. It is also necessary to have sufficient theoretical knowledge of the doctor so that he can correctly interpret the sounds being listened to, and constant training, the acquisition of listening skills. Only in this case, auscultation as a method of research reveals to the doctor all its possibilities.

Listening to the heart is the most valuable of the physical research methods. In practice, they mainly use auscultation with a stethoscope or phonendoscope, as well as direct listening to the heart with the ear (according to V. P. Obraztsov).

If the patient's condition allows, the heart should be listened to sequentially - in the supine position( on the back), standing and after physical exertion (10 squats). So that the breathing noises do not interfere with listening to the sounds coming from the heart, before listening to it, it is necessary to invite the patient to take a deep breath, a full exhalation and hold the breath in this position. You can not force too long not to breathe - this can cause a violation of the rhythm.

For the correct assessment of auscultation data, it is necessary to know the places where the sound phenomena associated with a particular valve are best listened to. The projections of the valves on the anterior chest wall are located close to each other. The mitral valve is projected on the left of the sternum in the area of attachment IV-th rib, three in the middle of the distance between the point of attachment to the sternum cartilage of the III rib cartilage on the left and V-th rib on the right. The valve of the pulmonary trunk is projected in the second intercostal space to the left of the sternum, the aortic valve-in the middle of the sternum at the level of the third thoracic cartilage.

However, listening to the sounds of the heart depends not only on the place of occurrence of sound vibrations, but also on their conduct through the blood flow and adjacent to the chest wall of the heart department in which they are formed. This allows you to find the best listening areas on the chest wall for the sound phenomena associated with the operation of each valve.

Listening to the sounds generated during operation of the heart valves, is carried out in sequence: the mitral valve, semilunar valve aortic semilunar valve pulmonary artery, tricuspid valve. This sequence of auscultation is explained by the frequency of their damage and the possibility of comparing the sound pattern at different points.

The first point of auscultation, the apex of the heart – the place of listening to the mitral valve. In the second intercostal space at the right edge of the sternum, the aortic valve (second point) is heard. At the symmetrical point in the second intercostal space at the left edge of the sternum - the valve of the pulmonary artery (the third point). At the base of the xiphoid process on the right, where the Y rib is attached to the sternum - the place of listening to the tricuspid valve (fourth point). The Botkin-Erb point (the third intercostal space at the left edge of the sternum) is an additional point. In the area of the Botkin-Erb point, noises are often carried out (the fifth point).

During auscultation, the sounds that occur in the heart during its work (tones, noises) are evaluated.

**Practical skills development (independent work of the student).**

**Students independently practice auscultation of the heart. The teacher controls their work. The results are recorded in a workbook.**

**Topic 8** Methods of research of the patient: auscultation of the heart. Classification of noise, the mechanism of their formation, diagnostic value. Testing.

**Forms of ongoing monitoring of academic performance:**

-written survey;

-oral survey;

-the development of practical skills;

-testing.

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

Option 1

1. Describe the noise in mitral stenosis.

2. The noise of Flint.

Option 2

1. Describe the noise in the stenosis of the aortic mouth.

2. The noise of Grehom Steele

**Assessment materials of the current control of academic performance**

**Questions for the oral survey**

Classification of heart murmurs, the mechanism of occurrence.

1. The concept of organic and functional noise. Their differentiation and diagnostic significance.

2. Places of the best listening, their conduct.

Typical practical tasks for testing skills:

1. Auscultation of the heart.

Perform auscultation of the heart, according to the rules described below.

**Rules and techniques of auscultation**

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• During auscultation, the patient stands or sits on a chair, in bed. Severe patients are listened to in a lying position.

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• One of the basic rules of auscultation requires that the doctor always use the device to which he is accustomed. It is also necessary to have sufficient theoretical knowledge of the doctor so that he can correctly interpret the sounds being listened to, and constant training, the acquisition of listening skills. Only in this case, auscultation as a method of research reveals to the doctor all its possibilities.

Listening to the heart is the most valuable of the physical research methods. In practice, they mainly use auscultation with a stethoscope or phonendoscope, as well as direct listening to the heart with the ear (according to V. P. Obraztsov).

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For the correct assessment of auscultation data, it is necessary to know the places where the sound phenomena associated with a particular valve are best listened to. The projections of the valves on the anterior chest wall are located close to each other. The mitral valve is projected on the left of the sternum in the area of attachment IV-th rib, three in the middle of the distance between the point of attachment to the sternum cartilage of the III rib cartilage on the left and V-th rib on the right. The valve of the pulmonary trunk is projected in the second intercostal space to the left of the sternum, the aortic valve-in the middle of the sternum at the level of the third thoracic cartilage.

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During auscultation, the sounds that occur in the heart during its work (tones, noises) are evaluated.

Practical skills development (independent work of the student).

Students independently practice auscultation of the heart. The teacher controls their work. The results are recorded in a workbook.

**Test task for knowledge control in 1 module**

**Option 1**

**Choose the correct answer**

1. What method should be called a subjective method of examination:

a) questioning the patient (or his relatives);

b) examination of the patient;

c) palpation;

d) percussion.

2. Typical complaints of respiratory diseases:

a) cough, drowsiness, diarrhea;

b) shortness of breath, palpitations, blood pressure;

c) cough, fever, shortness of breath;

d) shortness of breath, swelling, irritability.

3. Expiratory dyspnea is:

a) difficult to inhale;

b) it is difficult to exhale;

c) it is difficult to inhale and exhale;

d) it is difficult to breathe lying down.

4. Inspiratory shortness of breath is:

a) difficult to inhale;

b) it is difficult to exhale;

c) it is difficult to inhale and exhale;

d) it is difficult to breathe lying down.

5. Symptoms of heart disease:

a) pain, swelling, irritability;

b) palpitations, pain, drowsiness;

c) pain, palpitations, swelling;

d) edema, palpitations, anorexia.

6. Diseases of the pancreas are characterized by:

a) pain in the right hypochondrium;

b) pain in the epigastric region or left hypochondrium with irradiation in

your back;

c) pain in the epigastric region, passing after eating;

d) pain in the umbilical region.

7. Characteristic symptoms of kidney disease:

a) orthopnea, hemoptysis, swelling of the lower leg;

b) anemia, diarrhea, thirst;

c) lower back pain, swelling, change in urine;

d) bulimia, apathy, polyuria.

8. Risk factors for various diseases include:

a) smoking

b) alcoholism c

) pain

d) gender, age.

9. When questioning a patient with complaints of heart pain, it is necessary to

find out:

a) the relationship of pain with physical exertion, stress

b) the localization of pain c

) the nature

d) the circumstances that contribute to the disappearance of pain.

10. What complaints are characteristic of a lung patient:

a) cough

b) shortness of breath c

) frequent urination

d) hemoptysis.

11. Describe the renal edema:

a) begin on the face, soft;

b) the patient gets up with edema, the skin is pale;

c) edema increases in the evening after physical activity;

d) in the initial stages of the disease-on the lower extremities;

e) edema is dense, cyanotic.

12. The patient asks for help, moans because of a sharp pain in the right hypochondrium, radiating to the right forearm, notes repeated vomiting, chills, fever up to 40° C, is extremely restless, does not find a place for himself, the tongue is dry, covered. Determine the patient's condition:

a) satisfactory;

b) moderate severity;

c) heavy;

d) terminal.

13. The patient is constantly in a state of sleep (eyes closed, face amimichno), wakes up only to a shout or a drag (unconsciously answers questions, swallows food or water, turns in bed) and falls asleep again.

Determine the patient's condition:

a) clear;

b) stupor (a state of stun);

c) sopor;

d) coma;

e) fainting;

f) delirium.

14. Male, 45 years old, height 186 cm, weight 67 kg, thin. The limbs are long, the thorax is elongated.

Determine the constitutional type of the patient.

a) normosthenic;

b) hypersthenic;

c) hyposthenic.

15. Patient V., 54 years old, admitted to the hospital for clinical examination, active, freely comes into contact with patients, goes out into the corridor. Fully capable of serving herself. No changes are detected during the examination of the skin and visible mucous membranes. Give an assessment of the patient's condition according to the severity.

a) satisfactory;

b) moderate severity;

c) heavy;

d) terminal.

16. In diseases of the cardiovascular system, the appearance of edema is characteristic of:

a) on the face;

b) on the lower extremities;

c) in the abdominal cavity;

d) all answers are correct.

17. "The head of the jellyfish" is:

a) dilation of the anterior abdominal wall veins;

b) dilation of the veins of the posterior abdominal wall;

c) dilation of the veins of the lower extremities;

d) dilation of the veins of the upper extremities.

18. The gradual increase in the depth of respiratory movements, followed by a decrease to a complete stop of breathing - this is breathing:

a) Biota;

b) Grokka;

c) Kussmaul;

d) Cheyne-Stokes.

19. When examining the heart area, you can detect:

a) pulsation of the apical push;

b) the size of the heart;

c) the size of the vascular bundle;

d) a symptom of "cat purring".

20. Diffuse cyanosis is characteristic of:

a) liver failure;

b) kidney failure;

c) heart failure;

d) respiratory failure.

21. The bronze color of the skin is observed in the pathology of:

a) the pituitary gland;

b) the adrenal glands;

c) the pancreas;

d) the thyroid gland.

22. What allows you to determine the palpation of the chest:

a) elasticity of the chest

b) crepitation c

) soreness of the chest

d) voice tremor.

23. Soreness during palpation of the chest can be in all pathologies, except for:

a) emphysema of the lungs

b) dry pleurisy c

) rib fractures

d) intercostal neuralgia.

24. Increased vocal tremor is typical for:

a) hydrothorax

b) lung abscess in the cavity stage

c) emphysema of the lungs

d) complete obturation atelectasis.

25. What conditions are atypical for increased voice tremor:

a) pneumonia

b) lung infarction c

c) infiltrative tuberculosis

d) pneumothorax.

26. The area of the apical push is normally:

a) 0.5 cm

b) 4 cm c

) 2 cm

d) 6 cm.

27. The voice tremor is weakened by:

a) compaction of the lung tissue (pneumonia);

b) the formation of a cavity in the lung that communicates with the bronchus (the cavity of an abscess, cavern or tuberculosis of the lungs); c

) the accumulation of fluid in the pleural cavity.

28. The lower border of the lungs along the anterior axillary line corresponds to the rib:

a) V;

b) VI;

c) VII;

d) VIII.

29. The spleen is normal:

a) palpated in the left hypochondrium;

b) is palpated in the right upper quadrant;

c) palpated in the left iliac region;

d) Not palpable.

30. Does the air content in the lungs affect the percussion sound that occurs during chest percussion:

a) affects: the more air is contained in the lungs, the louder and lower the percussion sound above this area of the chest;

b) affects: the more air is contained in the lungs, the more the percussive sound above this area of the chest will be quieter and higher;

c) affects: the less air is contained in the lungs, the louder and lower the percussive sound above this area of the chest;

d) does not affect.

31. What percussive sound do you expect to get over a compacted area of the lung (for example, with inflammation of the lung):

a) clear lung;

b) stupid;

c) boxed;

d) tympanic.

32. When the chest is tapped over the emptied lung cavity (the cavity of the lung abscess or the cavity in pulmonary tuberculosis), the percussive sound is expected:

a) blunted;

b) stupid;

c) clear pulmonary;

d) tympanic.

33. A dull percussive sound is formed when tapping in a healthy person in the area of:

a) stomach;

b) small intestine;

c) the large intestine;

d) hips, shoulders.

34. With the same impact force, the box percussion sound:

a) is heard louder than the clear lung sound.;

b) it is heard quieter than a clear lung;

c) does not differ in the strength of the sound from the clear lung.

35. What percussion sound is obtained over healthy lungs:

a) tympanic

b) clear c

) blunted

d) dull.

36. The lower part of the lung can move upwards in all conditions, except for:

a) pulmonary fibrosis

b) high abdominal pressure c

) emphysema of the lungs

d) obturation atelectasis.

37. For croup pneumonia in the midst of the disease, a percussive sound is characteristic:

a) tympanitis

b) boxy c

) blunt

d) tympanic with a metallic tinge.

38. What department of the heart is formed by absolute cardiac dullness:

a) left ventricle

b) left atrium c

) right ventricle

d) right atrium.

39. The boundaries of absolute cardiac dullness are expanded in all cases, except for:

a) hydropericardium

b) emphysema of the lungs c

) left-sided atelectasis

d) hypertrophy of the right ventricle.

40. The vascular bundle is equal to:

a) 2-3 cm

b) 6-7 cm c

) 13-15 cm

d) 1 cm.

41. In the syndrome of fluid accumulation in the pleural cavity, the percussion sound:

a) box sound;

b) tympanic;

c) stupid;

d) clear.

42. The method of auscultation was first discovered by:

a) Auenbrugger;

b) Lancom;

C) Corvisart;

d) Botkin.

43. In emphysema of the lungs, respiration:

a) vesicular

b) bronchial c

) rigid

d) vesicular weakened.

44. Dry rales are formed when:

a) the walls of the alveoli are torn apart

b) swelling of the bronchial mucosa and their spasm c

) the presence of liquid sputum in the lumen of the bronchus

d) infiltration of lung tissue.

45. Bronchial respiration of the "amphoric" type is heard:

a) a cavity in the lung communicating with the bronchus

b) emphysema of the lungs c

) obturation atelectasis

d) hydrothorax.

46. The amplification of the I tone at the top of the heart (clapping) occurs when:

a) mitral valve insufficiency

b) aortic valve insufficiency

c) mitral stenosis

d) aortic stenosis.

47. The weakening of the II tone in the II intercostal space on the right at the edge of the sternum occurs in all these conditions, except for:

a) aortic stenosis

b) arterial hypertension c

) aortic valve insufficiency

d) hypotension.

48. What statement regarding auscultation of the heart is not true:

a) the sequence of listening to the heart valves is determined by the frequency

lesions of the valves

b) normally, the I and II heart tones are heard at all auscultative points

c) after the I tone, a large pause follows

d) the sonority of the second tone is evaluated on the basis of the heart.

49. The point of auscultation of the second tone:

a) the tip of the heart;

b) the second intercostal space on the right;

c) at the base of the xiphoid process;

d) the Botkin-Erb point.

50. The mechanism of formation of crepitation:

a) the inflammatory exudate accumulated in the bronchi forms threads stretched between the walls of the bronchi, or freely hanging tongues that fluctuate with the passage of air;

b) inflammatory exudate fills only certain areas of the bronchi so that the air passes through them when breathing, but in separate bubbles;

c) a small amount of fluid appearing in the alveoli (inflammatory exudate or edematous fluid, or blood) moistens the walls of the alveoli, which make sobbing sounds when breathing;

d) the alveoli and bronchi in the corresponding areas are completely filled with inflammatory exudate, which prevents the passage of air.

Option 2

Choose the correct answer

1. What symptom is not a sign of damage to the renal system:

a) pain in the lumbar region

b) swelling on the face c

) heart pain radiating under the shoulder blade

d) dysuric disorders.

2. What complaint is not typical for the defeat of the gastrointestinal tract

tract:

a) heartburn

b) diarrhea c

) vomiting

d) frequent urination.

3. Which pulmonary pathology is characterized by expiratory dyspnea:

a) pleurisy

b) bronchial asthma c

) lung abscess

d) pneumonia.

4. Inspiratory shortness of breath is:

a) difficult to inhale;

b) it is difficult to exhale;

c) it is difficult to inhale and exhale;

d) it is difficult to breathe lying down.

5. A symptom that is not characteristic of gastric bleeding:

a) vomiting with an admixture of blood;

b) black tar-like stool;

c) cyanosis;

d) pallor of the skin.

6. Subjective method of examination of the patient:

a) auscultation;

b) the survey;

c) inspection;

d) palpation.

7. Patients with diseases of the cardiovascular system do not present

complaints of:

a) itching

b) shortness of breath

c) palpitations

d) swelling on the legs.

8. What complaints are characteristic of a lung patient:

a) cough

b) shortness of breath c

) frequent urination

d) hemoptysis.

9. Describe the edema in heart failure:

a) begin on the face, soft;

b) the patient gets up with edema, the skin is pale;

c) edema increases in the evening after physical activity;

d) in the initial stages of the disease-on the lower extremities;

e) edema is dense, cyanotic.

10. The patient does not react to the environment, does not answer questions, moans, the face is grayish-bluish, pasty, the look is indifferent, the eyes are watery. There are generalized massive edema (anasarca), accumulation of fluid in the cavities (abdominal, pleural). Determine the patient's condition:

a) satisfactory;

b) moderate severity;

c) heavy;

d) terminal.

11. The patient is well-oriented in the surrounding space and time, easily makes contact, correctly answers questions.

Determine the patient's condition:

a) clear;

b) stupor (a state of stun);

c) sopor;

d) coma;

e) fainting;

f) delirium.

12. Male, 63 years old, height 165 cm, weight 93 kg, stocky, dense. The abdomen is of considerable size, the limbs are short.

Determine the constitutional type of the patient.

a) normosthenic;

b) hypersthenic;

c) hyposthenic.

13. Patient B., 38 years old, a driver by profession, was taken to the hospital by ambulance with a temperature of 39-40°C. The day before, he was overcooled (as a result of a car accident, he fell into an ice hole with ice water). When examined, it occupies a position on the right side, since in this position pain in the right half of the chest decreases. There is a blush on the right cheek, the eyes are shiny, there are hepretic rashes on the wings of the nose. The skin is moist to the touch. The number of breaths is 26-28 per minute. Give an assessment of the patient's condition according to the severity.

a) satisfactory;

b) moderate severity;

c) heavy;

d) terminal.

14. Normal respiratory rate:

a) 10-12 v min;

b) 16-20 v min;

c) 20-25 v min;

d) 18-23 v min.

15. Bright red palms are:

a) with kidney disease;

b) diseases of the stomach;

c) liver disease;

d) disease of the gallbladder.

16. Pathological form of the chest:

a) asthenic;

b) barrel-shaped;

c) hypersthenic;

d) normosthenic.

17. Deep, noisy, sparse breathing is breathing;

a) Biota;

b) Grokka;

c) Kussmaul;

d) Cheyne-Stokes.

18. Acrocyanosis is characteristic of:

a) liver failure;

b) kidney failure;

c) heart failure;

d) respiratory failure.

19. Telangiectasias appear:

a) in chronic renal failure;

b) chronic respiratory failure;

c) cirrhosis of the liver;

d) pancreatitis.

20. Lymph nodes are normal:

a) visible on general examination;

b) not visible and not palpable;

c) not visible, but palpable subclavian;

d) not visible, but palpable popliteal.

21. In which diseases palpation is determined by an increase in the liver:

a) gastritis

b) acute hepatitis c

) liver cancer

d) duadenitis.

22. The elasticity of the chest decreases when:

a) obturation atelectasis

b) emphysema of the lungs c

) stagnation in the small circle of blood circulation

d) lung abscess.

23. The weakening of the voice tremor is typical for:

a) bronchiectasis

b) exudative pleurisy

in) focal pneumonia

g) a massive outbreak of pulmonary fibrosis.

24. Normally, the apical push is located:

a) in the VI intercostal space at 1.5 cm inside of the left mid-clavicular line

b) in the V intercostal space 1.5 cm inside from the left mid-clavicular line c

) in the V intercostal space along the left mid-clavicular line

d) in the IV intercostal space 1.5 cm inside from the left mid-clavicular line.

25. The phenomenon of "voice tremor" is:

a) accumulation of viscous exudate in the alveoli;

b) type of breathing;

c) type of secondary respiratory noise;

d) palpatory determination of the conduction of the voice to the surface of the chest.

26. What leads to a weakening of the vocal tremor over the entire surface of the chest:

a) cachexia;

b) obesity of I-II degree;

c) hypersthenic constitution;

d) asthenic constitution;

e) inflammatory process in the lung;

e) emphysema of the lungs;

g) accumulation of fluid in the pleural cavity;

h) obturation atelectasis of the lung;

i) the high voice of the subject;

k) air in the pleural cavity.

27. The quality of the pulse, which characterizes the state of the vascular wall:

a) filling;

b) voltage;

c) rhythm;

d) frequency.

28. The lower border of the lungs along the middle axillary line corresponds to the rib:

a) V;

b) VI;

c) VII;

d) VIII.

29. The normal lung excursion along the middle axillary line

is (cm):

a) 2-3;

6) 4-6; c

) 6-8;

d) 8-10.

30. When tapping the chest above the intended area of the heart, the percussion sound:

a) clear pulmonary;

b) blunt, blunt;

c) boxed;

d) tympanic.

31. When tapping the lower parts of the chest of a patient with emphysema of the lungs, the percussive sound:

a) blunted;

b) stupid;

c) boxed;

d) tympanic.

32. When the chest is tapped over the emptied lung cavity (the cavity of the lung abscess or the cavity in pulmonary tuberculosis), the percussive sound is expected:

a) blunted;

b) stupid;

c) clear pulmonary;

d) tympanic.

33. With the same force of impact, a dull percussion sound:

a) is heard louder than a clear pulmonary sound.;

b) it is heard quieter than a clear lung;

c) does not differ in the strength of the sound from the clear lung.

34. Who suggested the percussion method:

a) Laennek

b) Mudrov c

) Auenbrugger

d) Kurlov.

35. The boundaries of the lungs shift downwards when :

a) obturation atelectasis

b) emphysema of the lungs c

) high pressure in the abdominal cavity

d) pneumosclerosis.

36. A dull sound over the lung tissue occurs in all pathological conditions, except for:

a) a cavity in the lungs communicating with the bronchus

b) infiltration of lung tissue c

) collapsed lung tissue

d) hydrothorax.

37. The left contour of the stupidity of the heart is formed by:

a) the left side of the aortic arch, pulmonary trunk, left atrium and left ventricle

b) the left side of the aortic arch, left atrium and left ventricle

C) the left side of the aortic arch and the left ventricle

d) left ventricle.

38. A significant expansion of the boundaries of relative cardiac dullness to the left and down is observed with dilatation of:

a) the right ventricle

b) right atrium c

) left ventricle

d) the left atrium.

39. Where is the upper limit of absolute cardiac dullness normally located?

a) at level II of the rib

b) at level III of the rib c

) at level III of the intercostal space

d) at the level of the IV edge.

40. Where is the right border of relative cardiac dullness in the IV intercostal space:

a) at the edge of the sternum

b) 4 cm outward from the edge of the sternum c

) 1-2 cm outward from the edge of the sternum

d) on the left edge of the sternum.

41. Tympanic percussion tone appears above the lung tissue (select all the correct answers):

a) a cavity in the lung that communicates with the bronchus

b) pneumosclerosis c

) hydrothorax

d) emphysema of the lungs

e) pneumonia.

42. Bronchial breathing is heard:

a) on the inhale

b) on the exhale c

) on the inhale and exhale

d) on the inhale and the first third of the exhalation.

43. The reason for the weakening of vesicular respiration can be anything other than:

a) accumulation of fluid in the pleural cavity

b) bronchospasm c

) emphysema of the lungs

d) obturation atelectasis.

44. Sonorous wet wheezes occur when:

a) increased airiness of the lung tissue

b) spasm of the small bronchi c

) stagnation in the small circle of blood circulation

d) the cavity in the lung communicating with the bronchus.

45. Systolic murmur above the apex of the heart is characteristic of:

a) mitral valve insufficiency

b) aortic valve insufficiency

c) mitral stenosis

d) aortic stenosis.

46. The rhythm of the gallop occurs:

a) severe heart damage

b) mitral valve prolapse c

) arterial hypertension

47. The patient has cardiac asthma, on the basis of the heart is heard:

a) the accent of the second tone on the aorta

b) the accent of the II tone on the pulmonary trunk c

) the weakening of the II tone on the aorta

d) weakening of the II tone on the pulmonary trunk.

48. The components of Tone II are all listed, except for:

a) vascular component

b) opening of the atrioventricular valves c

) contraction of the ventricles

d) closing of the semilunar valves.

49. Listening point of the tricuspid valve:

a) II intercostal space on the right;

b) II intercostal space on the left;

c) at the base of the xiphoid process;

d) the tip of the heart.

50. Heart rate deficit is:

a) the predominance of pulse beats over the number of heartbeats;

b) the predominance of the number of heartbeats over the number of pulse beats;

c) the absence of a pulse wave on one of the limbs.

d) the asymmetry of the pulse wave on the radial arteries.

The standard answers

Option I

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | а |  | а, b |  | b |  | b |  | c |
|  | b |  | b |  | а, b, d |  | d |  | b |
|  | b |  | c |  | а |  | d |  | d |
|  | а |  | b |  | c |  | c |  | b |
|  | c |  | а |  | d |  | b |  | а |
|  | b |  | b |  | c |  | c |  | c |
|  | c |  | а |  | c |  | c |  | b |
|  | а,b, d |  | d |  | b |  | c |  | c |
|  | а, b, c, d |  | а |  | d |  | b |  | b |
|  | а,b, d |  | d |  | а |  | b |  | c |

Option II

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | c |  | а |  | b,c |  | c |  | а, d |
|  | d |  | b |  | b |  | d |  | c |
|  | b |  | c |  | b |  | b |  | b |
|  | а |  | b |  | b |  | c |  | d |
|  | b |  | c |  | d |  | b |  | а |
|  | b |  | b |  | b, c, e, f |  | а |  | а |
|  | а |  | а |  | b |  | а |  | b |
|  | а, b, d |  | c |  | d |  | c |  | b, c |
|  | c, d |  | c |  | b |  | d |  | c |
|  | c |  | b |  | b |  | c |  | b |

**Practical tasks to demonstrate practical skills**

**Questions for the practical skills test:**

1. Superficial palpation of the abdomen

2. Palpation of the cecum

3. Palpation of the sigmoid colon

4. Palpation of the transverse colon

5. Palpation of the descending intestine

6. Palpation of the ascending intestine

7. Palpation of the liver

8. Palpation of the spleen

9. Palpation of the kidneys

10. Point palpation, palpation of ureteral points

11. Palpation of the chest, its tasks.

12. Palpation of the apical push

13. Palpation of the heartbeat

14. Palpation of the thyroid gland

15. Palpation of the lymph nodes

16. Palpation of the stomach

17. Inspection and palpation of the joints

18. Pasternatsky's symptom

19. General inspection

20. Examination and palpation of the chest

21. "Cat purr", palpation of its species

22. Comparative percussion of the lungs in the front

23. Comparative percussion of the lungs from behind

24. Determination of the percutaneous height of the standing of the apices of the lungs in front

25. Determination of the percutaneous height of standing of the apices of the lungs from behind

26. Definition of Krenig fields

27. Determination of the lower border of the lungs along the mid-clavicular line

28. Determination of the lower border of the lungs along the mid-axillary line

29. Determination of the lower border of the lungs along the scapular line

30. Determination of the excursion of the pulmonary edge along the scapular line

31. Percussion of the right border of relative cardiac dullness

32. Percussion of the left border of relative cardiac dullness

33. Determination of the width of the vascular bundle

34. Determination of the diameter of the heart

35. Definition of absolute cardiac dullness

36. Determination of the first liver size according to Kurlov

37. Percussion of the spleen

38. Percussion determination of fluid in the abdominal cavity

39. Percussion of the liver according to Kurlov

40. Percussion determination of the size of the diameter of the heart

41. Percussion of absolute heart dullness

42. Auscultation of the heart

43. Blood pressure measurement, pulse palpation

44. Auscultation of the lungs

**Module 2 Laboratory and instrumental research methods.**

**Topic 1** ECG (principle of the method, normal ECG, heart axis, ventricular and atrial hypertrophy).

**Forms of current monitoring of academic performance**

- written survey,

- oral interview,

- reading of electrocardiograms

**Assessment materials of the current control of academic performance**

**Questions for the written survey**

**Option 1**

1. ECG is normal (draw a diagram, mark the teeth, intervals, segments)

2. Determination of the rhythm frequency by ECG

Option 1

1. ECG signs of LV hypertrophy

2. Method of ECG recording

**Questions for the oral survey**

1. Electrophysiological basis of ECG.

2. The conducting system of the heart.

3. ECG leads and places where the electrodes are applied.

4. In which standard and thoracic leads are the bio-currents of different types recorded?

5. departments of the heart?

6. Analyze the elements of a normal ECG and their changes in pathology.

7. Determination of the rhythm frequency by ECG.

8. Signs of sinus rhythm on the ECG.

9. The concept of the electrical axis of the heart.

10. ECG-signs of atrial and ventricular hypertrophy.

**Practical tasks to demonstrate practical skills**

**Typical practical tasks for testing skills:**

1. Method of ECG registration

2. The decoding algorithm of the ECG

Perform ECG registration and ECG film analysis according to the rules described below.

**ECG registration rules and techniques, ECG analysis algorithm**

ELECTROCARDIOGRAM REMOVAL TECHNIQUE

The usual electrocardiographic examination includes mandatory registration of 12 leads: 3 standard, 3 reinforced unipolar from the extremities and 6 thoracic.

Standard leads. These are the bipolar leads from the extremities proposed by Einthoven. They are designated by the Roman numerals I, II, III. To record them, the electrodes are applied to both the upper and left lower limbs. The fourth electrode is placed on the right leg to connect the ground wire.

The procedure for connecting to the electrocardiograph when registering standard leads:

I lead - right hand (negative electrode) - left hand (positive electrode);

II lead - right arm (negative electrode) - left leg (positive electrode);

III lead - left arm (negative electrode) - left leg (positive electrode).

To obtain images, the standard leads on the right hand applied red electrode on the left is the yellow electrode on the left leg green on the right – black (GND).

Reinforced single-pole leads from the extremities (aVR, aVL, aVF). To record these leads, the active ( + ) electrode is sequentially placed on the right arm (aVR), on the left arm (aVL), and on the left leg (aVF). The total potential from two limbs free from the active electrode is applied to the negative pole of the electrocardiograph.

To register the potentials from the amplified leads, additional electrodes are not superimposed, since in modern devices there is an automatic system for removing these potentials when switching the toggle switch of the device.

Thoracic leads. These are the unipolar leads proposed by Wilson. They record the potential difference between the active ( + ) electrode placed at strictly defined points on the chest wall and the ( - ) combined Wilson electrode. The thoracic leads are indicated by the letter V with the position number of the active electrode indicated by an Arabic numeral. Positions of the active electrode when recording thoracic leads:

V1-IV intercostal space at the right edge of the sternum;

V2-IV intercostal space at the left edge of the sternum;

V3-between positions V2 and V4 (approximately at the level of the IV edge along the left parasternal line);

V4 - in the V intercostal space along the left midclavicular line;

V5-at the same horizontal level as V4 along the left antero-axillary line;

V6 - at the same horizontal level as V4 and V5 along the left mid-axillary line.

The above 12 leads (3 standard, 3 enhanced and 6 thoracic) are mandatory for ECG registration in each patient for the competent detection of pathology and the formation of an ECG conclusion.

Additional leads. The possibilities of electrocardiography can be significantly expanded by registering additional leads. The need for them arises when the information content of the 12 generally accepted leads is insufficient. There are many additional leads and they are used for certain indications. For example, in the diagnosis of posterobasal and posterobasal myocardial infarctions, the extreme left thoracic leads V7-V9 can be extremely useful. To record these leads, the active electrode is placed, respectively, along the posterior axillary, scapular, and paravertebral lines at level 5 of the intercostal space when the patient is positioned on the right side.

In clinical practice, palate leads are widely used. These are two-pole leads that fix the potential difference between two points on the surface of the chest. Lead Dorsalis (D) - the active ( + ) electrode is placed at the level of the apex of the heart along the posterior axillary line, ( - ) the electrode is placed in the II intercostal space at the right edge of the sternum. Anterior lead (A) - active ( + ) electrode - at the site of the apical push, ( - ) electrode - in the II intercostal space at the right edge of the sternum. Lead Inferior (J) - active ( + ) electrode-at the site of the apical push, ( - ) electrode at the level of the apex of the heart along the posterior axillary line. Palate leads are used to diagnose focal changes of the myocardium in the posterior wall (lead D), antero-lateral (lead A) and upper parts of the anterior wall of the left ventricle (lead J). Currently, the Sky leads are used exclusively for carrying out load tests. Other leads include orthogonal (Franc), which gives information about the sagittal area of the heart, and used primarily for Holter and modern non-invasive methods of assessing myocardial electrical instability: the late potentials, rate turbulence, micro - and microalternations T wave). There are also intraesophageal leads for more accurate topical diagnosis of arrhythmias.

ECG recording should be carried out in a warm room to avoid trembling of the patient with maximum muscle relaxation. Routine examinations are carried out after 10-15 minutes of rest no earlier than 2 hours after a meal. The usual position is lying on your back. Breathing is even, shallow.

Application of electrodes. In order to reduce the flood currents and improve the quality of ECG recording, it is necessary to ensure good contact of the electrodes with the skin. This is usually achieved by using gauze pads between the skin and the electrodes, moistened with 5-10% sodium chloride solution or using special conductive pastes. On the inner surface of the forearms and shins in the lower third, plate electrodes are applied, securing them with rubber bands. On the chest, one (or several with multi-channel recording) chest electrode is installed, which is fixed with a rubber pear sucker.

Connecting the electrodes to the electrocardiograph. Each electrode is connected to the electrocardiograph by the corresponding lead hose wire, which has a generally accepted color marking. The thoracic electrode is connected to a cable marked in white. When multi-channel recording with simultaneous recording of all six chest leads to the electrode in position V1 connect the wire with red tip, V2 - with yellow, V3 - green V4 - brown, V5 - black, V6 - with blue or purple. Color-coded breast electrodes are not standardized. In each model of the electrocardiograph, it can be its own, which is described in the instructions for the device.

Grounding of the electrocardiograph.

Connecting the device to the network. Recording the control millivolt. The ECG recording must be preceded by gain calibration. To do this, in the position of the lead switch "0", a standard calibration voltage of 1 millivolt is applied to the electrocardiograph galvanometer by pressing a special button. It is advisable to calibrate the recording at the beginning and end of the ECG recording.

The choice of the speed of the paper. Modern electrocardiographs can record ECG at various tape speeds: 12.5; 25; 50; 75 and 100 mm/s. The selected speed is set by pressing the corresponding button on the control panel. The speed of 50 mm/s is most convenient for subsequent ECG analysis. A lower speed (usually 25 mm / s) is used to detect and analyze arrhythmias when a longer ECG recording is required. At a belt speed of 50 mm / s, 1 mm corresponds to 0.02 s, at a belt speed of 25 mm/s, 1 mm corresponds to 0.04 s.

ECG recording. ECG recording consists of a sequential recording of electrocardiographic leads, which is done by turning the handle of the lead switch. At least 4 cycles are recorded in each lead.

The standard leads are recorded when the lead switch is in positions I, II, and III. III inhale the standard lead is recorded additionally when holding the breath on a deep breath. This is done in order to establish the positional nature of the changes often found in this lead and to diagnose respiratory arrhythmia.

Recording of unipolar amplified leads from the extremities. In the position of the lead switch I, write the lead aVR, II - aVL, III - aVF.

The entry of the chest leads. The lead switch is moved to position V. Each lead is recorded by moving the chest electrode sequentially from position V1 to position V6 (see above).

Record leads across the Sky. These additional leads are recorded using plate electrodes, which are transferred from the extremities to the chest. At the same time, the electrode from the right hand (red marked wire) is moved to the II intercostal space to the right edge of the sternum; from the left leg (green wire marking) - to the position of the thoracic lead V4 (top of the heart); from the left hand (yellow wire marking) - at the same horizontal level along the posterior axillary line. In the position of the lead switch I, the lead D, II - A, III - J are registered.

Before recording the ECG or after its completion, the tape indicates the date of the study (in emergency situations, the time is also recorded), the patient's last name, first name, patronymic, and age.

ECG ANALYSIS

1. Heart rate analysis. Normally, the rhythm driver is the sinus node. The normal sinus rhythm is determined by the following criteria:

1) the presence of a " + " P wave preceding each QRS complex in all leads except aVR, where P is normal «-»;

2) constant shape of the P-wave before the QRS;

3) normal and stable duration of the P-Q interval;

4) the difference in the intervals R-R (or P-R) is not more than 0.15. The evaluation of the latter criterion allows you to determine the rhythm as regular or irregular. If the rhythm is irregular, then the cause is specified (sinus arrhythmia, extrasystole, atrial fibrillation, etc.).

2. Heart rate. Set the duration of one cardiac cycle (interval R-R). Then use the formula: heart rate = 60/R-R, where 60 is the number of seconds in a minute.

3. Voltage. Measure the amplitude of the R teeth in standard leads. Normally, it is 5-15 mm. If the amplitude of the highest wave R does not exceed 5 mm or the sum of the amplitudes of the waves R in the I, II, III leads is less than 15 mm, then the voltage of the ECG is considered reduced.

4. Determination of the position of the electrical axis of the heart. In a modern ECG, the determination of the electrical axis of the heart is important only in the following four situations:

- blockage of the anterior branch of the left leg of the Gis bundle;

- right ventricular hypertrophy;

- left ventricular hypertrophy;

- diagnosis of tachycardia with wide QRS.

Normally, the position of the electrical axis of the heart is close to its anatomical axis, i.e. it is oriented from right to left and from top to bottom. There are several methods for determining the electrical axis of the heart: visual (according to standard leads), graphical (according to the angle α and Farre angle using special tables), the method of mutual perpendicular leads according to the Bayle system. Below is the simplest visual method for determining the axis. An approximate idea of the position of the electrical axis of the heart can be obtained by visual analysis of the morphology of the ventricular complex in three standard leads (the ratio of the amplitudes of the R and S waves). At the normal position of the electrical axis of the heart RII>RI>RIII. When the electrical axis of the heart deviates to the left RI>RII>RIII and SIII>RIII. When the electrical axis of the heart deviates to the right RIII>RII>RI and SI>RI.

5. Analysis of teeth and segments.

Analysis of conductivity. To evaluate the conductivity function, the following parameters are measured:

1. the duration of the P-wave (characterizes the speed of intra-atrial conduction);

2. The P-Q interval, which reflects the state of atrioventricular conduction;

3. the duration and morphology of the QRS complex, which gives a general idea of intraventricular conduction and focal changes (the final conclusion about the nature of the violation of intraventricular conduction is made after analyzing the morphology of the ventricular complex).

The measurement is usually made in the lead where the teeth are most pronounced (most often II).

In order not to miss the pathology, it is necessary to analyze the teeth and segments in all leads (from I standard to V6). The analysis is carried out in a certain sequence: the P wave, the QRS complex and its component teeth, the S-T segment, the T and U waves. It includes amplitude characteristics, time indicators, analysis of the shape of the teeth and their polarity, analysis of the morphology of the ventricular complex and the ratio of the amplitudes of the teeth in different leads.

6. Formulation of the electrocardiographic conclusion.

The electrocardiographic report should contain the following information:

1) the source of the heart rhythm, its regularity, frequency (the rhythm can be sinus, nodal, ventricular (ventricular), migration of the rhythm driver through the atria, fibrillation and flutter of both the atria and ventricles);

2) the position of the electrical axis of the heart. The positions of the heart are currently not determined, as they have no practical significance.

After that, an ECG syndrome should be formed:

- the presence of atrial and ventricular hypertrophy;

- the presence of atrial or ventricular blockages (legs of the bundle of Gis);

- the presence of various degrees of sinoatrial blockages;

- a-v blockades of various degrees;

- preexcitation syndromes (WPW, Maheim, short PQ);

- true ectopic disorders (extrasystole, various types of tachycardia);

- focal changes (various forms and stages of coronary heart disease);

- electrolyte disorders and drug overdoses;

- combined conduction and excitability disorders (parasystole, atrioventricular dissociation);

- imposed pacemaker rhythms.

Example 1. The rhythm is sinus, with a frequency of 72 per minute. The axis of the heart is not deflected. The electrical systole is not disturbed (electrocardiographic conclusion in the absence of pathological changes).

Example 2. Atrial fibrillation with a ventricular rate of 65-95 per minute. The electric axis is deflected to the right. ECG signs of right ventricular hypertrophy.

Example 3. Sinus rhythm with a heart rate of 90 beats per minute. Indeterminate electrical axis of the heart. Focal changes with a zone of damage and ischemia along the lower wall of the left ventricle. ECG signs of left ventricular hypertrophy. The electrical systole is extended (QTC is 0.48).

Practical skills development (independent work of the student).

Students independently take an ECG, using each other as a model. The teacher controls their work. The results are recorded in a workbook. After receiving the ECG films, students analyze them according to the scheme, answering the tasks for the ECG films in the workbook. Checking the transcription of ECG films.

Tasks for ECG films (norm, hypertrophy of the heart):

- Determine the number of heartbeats

- Rhythm

-Duration of the PQ interval

- Duration of the QRS and its changes

- The P-wave and its changes

-The location of the S-T interval in relation to the isoline

- The T-wave is normal and pathological

- Conclusion:…

**Topic 2** ECG (arrhythmias: sinus, extrasystole, paroxysmal tachycardia, flutter and flicker of the atria and ventricles).

**Forms of ongoing monitoring of academic performance**

- written survey

- oral interview,

- reading of electrocardiograms

**Assessment materials of the current control of academic performance**

**Questions for the oral survey**

Option 1

1. ECG signs of atrial fibrillation

2. Classification of extrasystoles

Option 2

1. ECG signs of paroxysmal ventricular tachycardia

2. Classification of rhythm disorders

**Questions for the oral survey**

1. ECG-diagnosis of sinus arrhythmias.

2. What is ectopic arrhythmia?

3. ECG-diagnosis of extrasystole, atrial and ventricular flutter and flutter, paroxysmal tachycardia.

Practical tasks to demonstrate practical skills

Typical practical tasks for testing skills:

1. The decoding algorithm of the ECG rhythm disturbances of the heart

**Perform an ECG film analysis according to the rules described below.**

ECG ANALYSIS

1. Heart rate analysis. Normally, the rhythm driver is the sinus node. The normal sinus rhythm is determined by the following criteria:

1) the presence of a " + " P wave preceding each QRS complex in all leads except aVR, where P is normal «-»;

2) constant shape of the P-wave before the QRS;

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Analysis of conductivity. To evaluate the conductivity function, the following parameters are measured:

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The measurement is usually made in the lead where the teeth are most pronounced (most often II).

In order not to miss the pathology, it is necessary to analyze the teeth and segments in all leads (from I standard to V6). The analysis is carried out in a certain sequence: the P wave, the QRS complex and its component teeth, the S-T segment, the T and U waves. It includes amplitude characteristics, time indicators, analysis of the shape of the teeth and their polarity, analysis of the morphology of the ventricular complex and the ratio of the amplitudes of the teeth in different leads.

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Practical skills development (independent work of the student).

After receiving the ECG films, students analyze them according to the scheme, answering the tasks for the ECG films in the workbook. The teacher checks the correctness of the decoding of the ECG films.

Tasks for ECG films (ECG with cardiac arrhythmias)

- Determine the number of heartbeats

- Rhythm

-Duration of the PQ interval

- Duration of the QRS and its changes

- The P-wave and its changes

-The location of the S-T interval in relation to the isoline

- The T-wave is normal and pathological

- Conclusion:…

**Topic 3** ECG (blockades: sinoauricular, atrioventricular, bundle legs of Gis, violation of intraventricular conduction).

**Forms of ongoing monitoring of academic performance**

- written survey

- oral interview,

- reading of electrocardiograms

Assessment materials of the current control of academic performance

Questions for the oral survey

Option 1

1. ECG signs of complete blockage of LDL

2. Classification of a-b blockades

Option 2

1. ECG signs of a-b blockade of the 2nd degree Mobitz 1

2. Classification of cardiac conduction disorders

**Questions for the oral survey**

1. Disorders of the cardiac conduction system. Blockades. Classification.

2. ECG-signs of sinoauricular, intra-atrial, atrioventricular and intraventricular block.

3. Degrees of A-V blockade, their differentiation in the analysis of ECG.

**Practical tasks to demonstrate practical skills**

**Typical practical tasks for testing skills:**

1. The decoding algorithm of the ECG rhythm disturbances of the heart

**Perform an ECG film analysis according to the rules described below.**

**ECG ANALYSIS**

1. Heart rate analysis. Normally, the rhythm driver is the sinus node. The normal sinus rhythm is determined by the following criteria:

1) the presence of a " + " P wave preceding each QRS complex in all leads except aVR, where P is normal «-»;

2) the constant shape of the P-wave before the QRS;

3) normal and stable duration of the P-Q interval;

4) the difference in the intervals R-R (or P-R) is not more than 0.15. The evaluation of the latter criterion allows you to determine the rhythm as regular or irregular. If the rhythm is irregular, then the cause is specified (sinus arrhythmia, extrasystole, atrial fibrillation, etc.).

2. Heart rate. Set the duration of one cardiac cycle (interval R-R). Then use the formula: heart rate = 60/R-R, where 60 is the number of seconds in a minute.

3. Voltage. Measure the amplitude of the R teeth in standard leads. Normally, it is 5-15 mm. If the amplitude of the highest wave R does not exceed 5 mm or the sum of the amplitudes of the waves R in the I, II, III leads is less than 15 mm, then the voltage of the ECG is considered reduced.

4. Determination of the position of the electrical axis of the heart. In a modern ECG, the determination of the electrical axis of the heart is important only in the following four situations:

- blockage of the anterior branch of the left leg of the Gis bundle;

- right ventricular hypertrophy;

- left ventricular hypertrophy;

- diagnosis of tachycardia with wide QRS.

Normally, the position of the electrical axis of the heart is close to its anatomical axis, i.e. it is oriented from right to left and from top to bottom. There are several methods for determining the electrical axis of the heart: clear (standard leads), graphic (angle α and angle Pharr with the use of special tables), the method of reciprocal orthogonal lead system Bayle. Below is the simplest visual method for determining the axis. An approximate idea of the position of the electrical axis of the heart can be obtained by visual analysis of the morphology of the ventricular complex in three standard leads (the ratio of the amplitudes of the R and S waves). At the normal position of the electrical axis of the heart RII>RI>RIII. When the electrical axis of the heart deviates to the left RI>RII>RIII and SIII>RIII. When the electrical axis of the heart deviates to the right RIII>RII>RI and SI>RI.

5. Analysis of teeth and segments.

Analysis of conductivity. To evaluate the conductivity function, the following parameters are measured:

1. the duration of the P-wave (characterizes the speed of intra-atrial conduction);

2. The P-Q interval, which reflects the state of atrioventricular conduction;

3. the duration and morphology of the QRS complex, which gives a general idea of intraventricular conduction and focal changes (the final conclusion about the nature of the violation of intraventricular conduction is made after analyzing the morphology of the ventricular complex).

The measurement is usually made in the lead where the teeth are most pronounced (most often II).

In order not to miss the pathology, it is necessary to analyze the teeth and segments in all leads (from I standard to V6). The analysis is carried out in a certain sequence: the P wave, the QRS complex and its component teeth, the S-T segment, the T and U waves. It includes amplitude characteristics, time indicators, analysis of the shape of the teeth and their polarity, analysis of the morphology of the ventricular complex and the ratio of the amplitudes of the teeth in different leads.

6. Formulation of the electrocardiographic conclusion.

The electrocardiographic report should contain the following information:

1) the source of the heart rhythm, its regularity, frequency (the rhythm can be sinus, nodal, ventricular (ventricular), migration of the rhythm driver through the atria, fibrillation and flutter of both the atria and ventricles);

2) the position of the electrical axis of the heart. The positions of the heart are currently not determined, as they have no practical significance.

After that, an ECG syndrome should be formed:

- the presence of atrial and ventricular hypertrophy;

- the presence of atrial or ventricular blockages (legs of the bundle of Gis);

- the presence of various degrees of sinoatrial blockages;

- a-v blockades of various degrees;

- preexcitation syndromes (WPW, Maheim, short PQ);

- true ectopic disorders (extrasystole, various types of tachycardia);

- focal changes (various forms and stages of coronary heart disease);

- electrolyte disorders and drug overdoses;

- combined conduction and excitability disorders (parasystole, atrioventricular dissociation);

- imposed pacemaker rhythms.

Example 1. The rhythm is sinus, with a frequency of 72 per minute. The axis of the heart is not deflected. The electrical systole is not disturbed (electrocardiographic conclusion in the absence of pathological changes).

Example 2. Atrial fibrillation with a ventricular rate of 65-95 per minute. The electric axis is deflected to the right. ECG signs of right ventricular hypertrophy.

Example 3. Sinus rhythm with a heart rate of 90 beats per minute. Indeterminate electrical axis of the heart. Focal changes with a zone of damage and ischemia along the lower wall of the left ventricle. ECG signs of left ventricular hypertrophy. The electrical systole is extended (QTC is 0.48).

Practical skills development (independent work of the student).

After receiving the ECG films, students analyze them according to the scheme, answering the tasks for the ECG films in the workbook. The teacher checks the correctness of the decoding of the ECG films.

Tasks to films electrocardiogram (ECG conduction disorders of the heart)

- Determine the number of heartbeats

- Rhythm

-Duration of the PQ interval

- Duration of the QRS and its changes

- The P-wave and its changes

-The location of the S-T interval in relation to the isoline

- The T-wave is normal and pathological

- Conclusion:…

**Topic 4** ECG in myocardial infarction (stage, localization, depth of spread).

**Forms of current monitoring of academic performance**

- written survey

- oral interview,

- reading of electrocardiograms

**Assessment materials of the current control of academic performance**

**Questions for the oral survey**

Option 1

1. ECG signs of acute stage of transmural infarction

2. Describe the localization of infarction of the anterior LV wall

Option 2

1. ECG signs of the subacute stage of transmural infarction

2. Describe the localization of infarction of the posterior LV wall

**Questions for the oral survey**

1. ECG-signs of myocardial infarction.

2. Stages of myocardial infarction, determined by ECG analysis.

3. The concept of anterior, lower and posterior myocardial infarction. ECG – signs of transmural and subendocardial myocardial infarction, Q-positive and Q – negative myocardial infarction.

**Practical tasks to demonstrate practical skills**

Typical practical tasks for testing skills:

1. The decoding algorithm of the ECG rhythm disturbances of the heart

Perform an ECG film analysis according to the rules described below.

**ECG ANALYSIS**

1. Heart rate analysis. Normally, the rhythm driver is the sinus node. The normal sinus rhythm is determined by the following criteria:

1) the presence of a " + " P wave preceding each QRS complex in all leads except aVR, where P is normal «-»;

2) the constant shape of the P-wave before the QRS;

3) normal and stable duration of the P-Q interval;

4) the difference in the intervals R-R (or P-R) is not more than 0.15. The evaluation of the latter criterion allows you to determine the rhythm as regular or irregular. If the rhythm is irregular, then the cause is specified (sinus arrhythmia, extrasystole, atrial fibrillation, etc.).

2. Heart rate. Set the duration of one cardiac cycle (interval R-R). Then use the formula: heart rate = 60/R-R, where 60 is the number of seconds in a minute.

3. Voltage. Measure the amplitude of the R teeth in standard leads. Normally, it is 5-15 mm. If the amplitude of the highest wave R does not exceed 5 mm or the sum of the amplitudes of the waves R in the I, II, III leads is less than 15 mm, then the voltage of the ECG is considered reduced.

4. Determination of the position of the electrical axis of the heart. In a modern ECG, the determination of the electrical axis of the heart is important only in the following four situations:

- blockage of the anterior branch of the left leg of the Gis bundle;

- right ventricular hypertrophy;

- left ventricular hypertrophy;

- diagnosis of tachycardia with wide QRS.

Normally, the position of the electrical axis of the heart is close to its anatomical axis, i.e. it is oriented from right to left and from top to bottom. There are several methods for determining the electrical axis of the heart: clear (standard leads), graphic (angle α and angle Pharr with the use of special tables), the method of reciprocal orthogonal lead system Bayle. Below is the simplest visual method for determining the axis. An approximate idea of the position of the electrical axis of the heart can be obtained by visual analysis of the morphology of the ventricular complex in three standard leads (the ratio of the amplitudes of the R and S waves). At the normal position of the electrical axis of the heart RII>RI>RIII. When the electrical axis of the heart deviates to the left RI>RII>RIII and SIII>RIII. When the electrical axis of the heart deviates to the right RIII>RII>RI and SI>RI.

5. Analysis of teeth and segments.

Analysis of conductivity. To evaluate the conductivity function, the following parameters are measured:

1. the duration of the P-wave (characterizes the speed of intra-atrial conduction);

2. The P-Q interval, which reflects the state of atrioventricular conduction;

3. the duration and morphology of the QRS complex, which gives a general idea of intraventricular conduction and focal changes (the final conclusion about the nature of the violation of intraventricular conduction is made after analyzing the morphology of the ventricular complex).

The measurement is usually made in the lead where the teeth are most pronounced (most often II). In order not to miss the pathology, it is necessary to analyze the teeth and segments in all leads (from I standard to V6). The analysis is carried out in a certain sequence: the P wave, the QRS complex and its component teeth, the S-T segment, the T and U waves. It includes amplitude characteristics, time indicators, analysis of the shape of the teeth and their polarity, analysis of the morphology of the ventricular complex and the ratio of the amplitudes of the teeth in different leads.

6. Formulation of the electrocardiographic conclusion.

The electrocardiographic report should contain the following information:

1) the source of the heart rhythm, its regularity, frequency (the rhythm can be sinus, nodal, ventricular (ventricular), migration of the rhythm driver through the atria, fibrillation and flutter of both the atria and ventricles);

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- the presence of various degrees of sinoatrial blockages;

- a-v blockades of various degrees;

- preexcitation syndromes (WPW, Maheim, short PQ);

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- focal changes (various forms and stages of coronary heart disease);

- electrolyte disorders and drug overdoses;

- combined conduction and excitability disorders (parasystole, atrioventricular dissociation);

- imposed pacemaker rhythms.

Example 1. The rhythm is sinus, with a frequency of 72 per minute. The axis of the heart is not deflected. The electrical systole is not disturbed (electrocardiographic conclusion in the absence of pathological changes).

Example 2. Atrial fibrillation with a ventricular rate of 65-95 per minute. The electric axis is deflected to the right. ECG signs of right ventricular hypertrophy.

Example 3. Sinus rhythm with a heart rate of 90 beats per minute. Indeterminate electrical axis of the heart. Focal changes with a zone of damage and ischemia along the lower wall of the left ventricle. ECG signs of left ventricular hypertrophy. The electrical systole is extended (QTC is 0.48).

Practical skills development (independent work of the student).

After receiving the ECG films, students analyze them according to the scheme, answering the tasks for the ECG films in the workbook. The teacher checks the correctness of the decoding of the ECG films.

Tasks for ECG films (ECG, myocardial infarction, all ECG topics)

- Determine the number of heartbeats

- Rhythm

-Duration of the PQ interval

- Duration of the QRS and its changes

- The P-wave and its changes

-The location of the S-T interval in relation to the isoline

- The T-wave is normal and pathological

- Conclusion:…

**Topic 5** Questioning and examination of patients with pathology of the circulatory system. Instrumental research methods.

**Forms of ongoing monitoring of academic performance:**

**-**written survey;

-oral survey;

-the development of practical skills;

-solving situational problems;

-report.

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

Option 1

1. Exercise tests used in cardiology.

2. Daily ECG monitoring, its clinical significance.

Option 2

1. List the invasive methods of examination of a cardiac patient.

2. Indications and contraindications to bicycle ergometry.

**Assessment materials of the current control of academic performance**

**Questions for the oral survey**

1. Complaints of patients with pathology of the circulatory system (chest pain, shortness of breath, rhythm disturbance, edema). Pathogenesis.

2. Examination of cardiac patients (general and private), symptoms detected during the examination.

3. Functional methods of research of patients with cardiovascular diseases. ECG, echocardiography, X-ray, radioisotope, tomography and other methods.

**Texts of situational tasks (typical)**

Task # 1

Pre-conscript Sh., 17 years old, does not complain to the commission. From the anamnesis, it is known that he often suffers from colds. On examination-asthenic build, height 182 cm, weight 65 kg, skin and mucous membranes of the usual color. The apical push is visible in the V intercostal space inside at 1.5 cm from the mid-clavicular line, with palpation of sufficient force, localized. With percussion of the heart (relative and absolute dullness) no pathology was detected. With auscultation of the heart, the tones are quite loud, rhythmic. At the top, a systolic murmur is heard.

On the ECG-sinus arrhythmia with a heart rate of 65-80 per minute. The semi-vertical electrical axis of the heart. Violation of intraventricular conduction.

Food. Aorta without features, D ± 19 mm (N-30 mm), aortic valve leaves intact, divergence in systole 18 mm. Left atrium 21 mm (N), right ventricle 20 mm( N), right atrium 33 mm( N), left ventricle 45 mm( N), pulmonary artery 16 mm( N). Mitral valve " M " - shaped, divergence in diastole sufficient-31 mm. The anterior leaf of the mitral valve sags into the cavity of the left atrium by 6-7 mm, regurgitation above the leaves of the mitral valve (++).

What kind of heart disease are we talking about? Possible answers:

a) mitral valve insufficiency

b) +mitral valve prolapse

C) stenosis of the mitral orifice.

**Task # 2**

During a routine check-up at the polyclinic, worker M., 32, did not make any complaints. From the anamnesis, it is known that in childhood he suffered a rheumatic attack. He was registered with a rheumatologist for 2 years, then in connection with the move, he was not registered, was not treated. He served in the army. I didn't consider myself sick. During the inspection – asthenic physique. The skin and mucous membranes are of the usual color, there is no edema. On palpation, there is an apical push in the V intercostal space on the left along the mid-clavicular line. With percussion of the heart – the right border of relative cardiac dullness without features, the left-in the IV intercostal space 5 cm from the left edge of the sternum, in the V intercostal space - along the mid-clavicular line. With auscultation, the heart rhythm is correct, the I tone at the apex is weakened, on the base without features. In the apical region, a systolic noise is clearly heard, occupying the entire systole, merged with the I tone. The noise is drawn to the Botkin point. After physical activity (20 squats) the noise increases.

ECG-sinus rhythm, the electrical axis of the heart is not deviated. Local violation of atrial and intraventricular conduction. Initial signs of left ventricular hypertrophy.

Food. Aorta without features, D ± 22 mm (N-30 mm), aortic valve leaves intact, divergence in systole 17 mm. Left atrium 29 mm (N), right ventricle 22 mm (N), right atrium 31 mm (N), pulmonary artery 17 mm (N), left ventricle 57 mm (N – 56 mm). Mitral valve "M" - shaped, the divergence in the diastole is sufficient-30 mm. Mm. Pronounced regurgitation over the leaves of the mitral valve (+++, ++++), to the roof of the left atrium.

What kind of heart disease are we talking about? Variants of the answer:

a) stenosis of the mitral orifice

b) mitral valve prolapse

c) + mitral valve insufficiency.

**Task # 3**

Patient K., 40 years old, complains of shortness of breath during physical exertion, periodic chest pains with radiation in the left arm, cough at night, swelling on the legs in the evening, weakness. For many years, since childhood, he suffers from rheumatism, has a heart defect. On examination-asthenic, "mitral butterfly" on the face, pasty shins, swelling of the feet. Apical shock is not visible, epigastric pulsation. The boundaries of relative cardiac dullness are expanded: on the right in the IV intercostal space by 1.5 cm outward from the right edge of the sternum, on the left in the II-III intercostal space along the mid-clavicular line. I tone at the apex is a clapping, diastolic noise with presystolic amplification. At the Botkin point – "quail rhythm" (three-part rhythm). At the base of the heart, the accent of the second tone is above the pulmonary artery, at the point of listening to the tricuspid valve-the tones are muted, a short systolic noise. In the lungs, weakened vesicular respiration, crepitation in the lower parts of the back. The liver protrudes 2 cm from under the edge of the costal arch, the edge is soft, painful on palpation.

ECG. Sinus rhythm with a heart rate of 64 per minute. The electrical axis of the heart is deflected to the right. Signs of hypertrophy of the right and left atria. Blockade of the right bundle branch block. Signs of stress on the right ventricle.

Food. Aorta without features, D ± 25 mm (N-30 mm), aortic valve leaves intact, divergence in systole 19 mm. The flow to the aorta is not accelerated, there is no regurgitation. The left atrium is 45 mm (N-40mm), the right atrium is 42 mm (N – 38mm), the right ventricle is 34-36 mm (N – 30mm), the walls of the right ventricle are thickened. Left ventricle – 50 mm (N-56 mm). The mitral valve is " P " - shaped, soldered along the commissures, the divergence in the diastole is reduced to 11 mm (N-19-32 mm), the transmitral flow is accelerated to 2.65 m/s (N – 1.0 m/s). The anterior wall of the mitral valve "slides" towards the interventricular septum. The area of the mitral foramen is 2.1 cm2. Tricuspid regurgitation ( ++ ,+++). The pressure in the pulmonary artery is 25 mm (N -23 mm).

What kind of heart disease are we talking about? Possible answers:

a) mitral valve insufficiency

b) stenosis of the mitral orifice in the compensation stage

in) +stenosis of the mitral orifice in the stage of decompensation.

**Task # 4**

Patient M., 47 years old, upon admission to the hospital, complains of periodic headaches, dizziness, compressive pain behind the sternum. Similar phenomena have begun to occur in the last few years, more often associated with the load. Two days ago, while working at the dacha, he lost consciousness. From the anamnesis, it is known that in childhood he often had sore throats. He is not registered, has not been examined. On examination, the correct physique, well-developed muscles of the shoulder girdle, active. The skin is a little pale, on the neck – "dance of the carotids", a symptom of Quincke and Musset. On examination of the thorax, a diffuse, lifting phonendoscope apical push in the VI intercostal space along the antero-axillary line is visible. The boundaries of relative cardiac dullness are shifted to the left in the IV intercostal space to the mid-clavicular line, in V-2 cm outside of the mid-clavicular line, in VI-along the antero-axillary line. With auscultation at the apex, the heart tones are rhythmic, muted, a short systolic murmur, gentle, is not carried out anywhere. At the base of the heart II, the tone on the aorta is weakened, diastolic noise. Blood pressure is 160/50 mm Hg on both hands.

ECG. Sinus rhythm with a heart rate of 84 per minute. The electrical axis of the heart is deflected to the left. Signs of hypertrophy of the left ventricle with signs of its overload.

Food. Aorta without features, D ± 22 mm (N-30 mm), aortic valve leaves intact, divergence in systole 17 mm. Regurgitation over the valves of the aorta (++, +++). Left ventricle 63 mm (N-56 mm). Left atrium 23 mm (N). The right departments are not changed. Mitral valve "M" - shaped, regurgitation over the leaves of the mitral valve (++).

What kind of heart disease are we talking about? Possible answers:

a) aortic stenosis

b) + aortic valve insufficiency c

) mitral valve insufficiency.

**Task # 5**

Patient K., 72 years old, was taken to the trauma department with a fracture of the right humerus. During the examination by the therapist, he complains of headaches, dizziness, periodic pain behind the sternum with radiation in the left arm, which passes after taking nitroglycerin. On examination-hypersthenic build, pale skin. The apical push is visible to the eye in the IV intercostal space 2 cm outside of the left mid-clavicular line. In percussion, the boundaries of relative cardiac dullness are shifted to the left in the IV intercostal space to the mid-clavicular line, in the V – 2 cm outwards from the mid-clavicular line. With auscultation at the apex, the heart tones are rhythmic, muted, a short systolic murmur, gentle, is not carried out anywhere. At the base of the heart in the II intercostal space, a “systolic cat purr " is palpated, and here a rough systolic noise is heard, which is carried out on the carotid arthreria and in the interscapular space. II the tone on the aorta is weakened. Blood pressure is 90/80 mm Hg on both hands.

ECG. Sinus rhythm with a heart rate of 90 per minute. The electrical axis of the heart is deflected to the left. Signs of hypertrophy of the left ventricle with signs of its overload.

Food. The aorta is without features, D ± 22 mm (N-30 mm), the aortic valve flaps are thickened, the divergence in the systole is sharply reduced - 10 mm (N – 15-24 mm).the flow to the aorta is accelerated – 2.1 m / s (N-1.7 m / s). at the base of the right coronary sash – inclusions of calcium. The left ventricle 60 mm (N – 56 mm). Left atrium 23 mm (N). The right departments are not changed. Mitral valve "M" - shaped, regurgitation over the leaves of the mitral valve (+).

What kind of heart disease are we talking about? Possible answers:

a) aortic insufficiency

b) mitral valve insufficiency c

) +aortic stenosis.

Task # 6

Patient B., 19 years old, has been suffering from rheumatism since the age of 12. He is registered with a rheumatologist. During the medical examination, he complains of shortness of breath during exercise, compressive pain behind the sternum, weakness, fatigue.

On examination, he looks younger than his age, asthenic. Apical push - in the V intercostal space 1.5 cm inside of the mid-clavicular line, there is a "diastolic cat purr". In percussion, the boundaries of relative cardiac dullness are shifted to the left in the II and III intercostals by 2 cm outwards. At auscultation I, the tone at the apex is a clapping, diastolic noise with presystolic amplification. At the Botkin point – "quail rhythm" (three-part rhythm).

ECG. Sinus rhythm with a heart rate of 64 per minute. Increased load on the left atrium. Single supraventricular extrasystoles.

Food. Aorta without features, D ± 25 mm (N-30 mm), aortic valve leaves intact, divergence in systole 19 mm. The flow to the aorta is not accelerated, there is no regurgitation. The left atrium is 50 mm (N-40 mm). Left ventricle – 50 mm (N-56 mm). The mitral valve is " P " - shaped, soldered along the commissures, the divergence in the diastole is reduced to 17 mm (N-19 mm), the transmitral flow is accelerated to 2.65 m/s (N – 1.0 m/s). The anterior wall of the mitral valve "slides" towards the interventricular septum. The area of the mitral foramen is 2.1 cm2. The pressure in the pulmonary artery is 20 mm (N).

What kind of heart disease are we talking about? Possible answers:

a) mitral valve insufficiency

b) +stenosis of the mitral orifice in the compensation stage

C) stenosis of the mitral orifice in the stage of decompensation.

Task # 7

Patient A., 43 years old, was admitted to the hospital with complaints of shortness of breath during exercise, attacks of suffocation at night, palpitations, swelling on the legs. She has been ill with rheumatism for 20 years, since 25 years they find a heart defect, she is registered. Deterioration of the condition for about 5 years. Disabled person of group 2. On examination-forced position (orthopnea), acrocyanosis on the background of pale skin, swelling of the feet and shins, epigastric pulsation, positive venous pulse. The boundaries of relative cardiac dullness are expanded: on the right in the IV intercostal space by 2 cm outward from the right edge of the sternum, on the left in the II-III-IV intercostal space along the mid-clavicular line. Vascular bundle of 6 mm. With auscultation of the heart, the rhythm is correct, the tones are muted, the systolic diastolic noise is at the top. The accent of the second tone on the pulmonary trunk, a rough systolic noise on the aorta. In the lungs, weakened vesicular respiration, small-bubbled wet wheezes in the lower parts of the back. The liver protrudes 2 cm from under the edge of the costal arch, the edge is soft, painful on palpation.

ECG. Sinus tachycardia with a heart rate of 100-120 per minute. The electrical axis of the heart is deflected to the right. Signs of hypertrophy of the right and left ventricles. Blockade of the right bundle branch block.

Food. Aorta without features, D ± 25 mm (N-30 mm), aortic valve flaps are changed, thickened and soldered together, the discrepancy in the systole is 13 mm. The flow to the aorta is not accelerated, there is no regurgitation. The left atrium is 43 mm (N-40mm), the right atrium is 40 mm (N – 38mm), the right ventricle is 34 mm (N – 30mm), the walls of the right ventricle are thickened. Left ventricle-58 mm (N-56 mm). The mitral valve is " P " - shaped, soldered along the commissures, the divergence in the diastole is reduced to 13 mm (N-19 mm), the transmitral flow is accelerated to 2.65 m/s (N – 1.0 m/s). above the mitral valve flaps, regurgitation ( ++ ,+++). The pressure in the pulmonary artery is 25 mm (N -23 mm).

What kind of heart disease are we talking about? Variants of the answer:

a) concomitant mitral

b) aortic defect (stenosis with metalitalia)

in) +of combined mitral combined with stenosis of the mouth of the aorta.

ANSWERS TO TASKS

No. 1-b (mitral valve prolapse)

No. 2-b (mitral valve insufficiency)

No. 3-b (mitral orifice stenosis in decompensation stage)

No. 4-b (aortic valve insufficiency)

No. 5-b (aortic stenosis)

No. 6 – b (stenosis of the mitral orifice in the compensation stage)

No. 7-b (combined mitral defect in combination with stenosis of the aortic mouth)

**Practical training on a clinical basis**

**The scheme of supervision of a patient on a medical ward**

When making a fragment of the medical history, students should follow the recommended scheme of patient supervision in the therapeutic department. The medical history should be clearly and consistently written in the form of a presentation. It is necessary to conduct a complete examination of the patient's system by physical methods of research, applying for this purpose, in the study of each organ system, in strict sequence, examination, palpation, percussion and auscultation. The text of the medical history should be written in a neat, clear and legible hand, without abbreviating words. The following requirements must be met:

• Accuracy and consistency of presentation;

• Comprehensive completeness of the necessary information;

• Clarity of presentation;

• All subheadings of the medical history sections should be highlighted;

• There must be wide margins for the teacher's comments.

Sample

Title page

FSBEI of HE

"OSMA" Health Ministry of Russia

Department of Propaedeutics of Internal Diseases

Head of the Department Professor,

Doctor of Medical Sciences K. M. Ivanov

Teacher\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fragment of writing a medical history

Completed by the student\_\_\_\_\_\_\_\_of the group

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(last name, first name, patronymic of the student)

Orenburg, 2020

Name of the medical institution:

Non-governmental health care institution "Department clinical hospital of JSC" Russian Railways " on the station Orenburg

Date of admission of the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Last name, first name, patronymic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Age\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Gender\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Nationality \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Education \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Profession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Current position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Home address of the patient and close relatives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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9. Who referred the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. The diagnosis that was sent to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Preliminary diagnosis upon admission to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. The final clinical diagnosis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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THE PATIENT'S COMPLAINTS

List the complaints that the patient himself notes at the time of questioning or noted at the time of admission to the clinic. First, you need to identify the main (leading) complaints, then the general ones. On the basis of the submitted complaints, make an assumption about the defeat of which system is in question (the respiratory system, blood circulation, etc.). Clarify whether there are any other complaints that characterize the pathology of this system, but which the patient did not mention.

It is necessary to specify the complaints.

Complaints of respiratory system damage: nasal breathing: difficulty, complete inability to breathe through the nose, feeling dry, runny nose-nasal discharge (quantity, nature, smell). Feeling of dryness and pain in the throat when speaking, swallowing; voice disturbance (hoarse, lack of voice). Chest pain: its location, the nature of the pain (acute, dull, stabbing, aching, shooting), intensity, duration, the effect on them of movement, body position, breathing and coughing, their irradiation. Shortness of breath: continuous or periodic, the appearance or increased shortness of breath when walking fast when climbing the stairs, the strength and duration of dyspnea, the appearance or strengthening it in horizontal or vertical position, the nature of dyspnea (expiratory, inspiratory, combined). Suffocation: time of appearance, strength, duration. Cough and its features: persistent or intermittent, dry or with sputum (wet). Sputum leaves freely or with difficulty, evenly or after particularly strong attacks; the time of departure (morning, afternoon, evening), the amount (per day and at a time), the smell and color of it, the allocation, depending on the position of the patient. Hemoptysis: time of occurrence, intensity, pure blood or mixed with sputum, amount of blood, character (liquid or clots), color (scarlet, black, yellow).

Complaints of damage to the circulatory system: pain in the heart or behind the sternum: nature (stabbing, squeezing, pressing); strength; duration (constant or paroxysmal); radiation; conditions under which pain occurs; behavior of the patient during pain; from what measures the pain calms down. Heartbeat: constant or intermittent; intensity;" interruptions " in the work of the heart; duration; connection with physical tension, movements, agitation, at rest, after eating, in a horizontal position, when the external temperature changes. Shortness of breath: (see above). Edema: their localization, features of appearance (in the morning, in the evening), permanent or disappearing, the intensity of their appearance, the connection with physical stress, fluid intake, heaviness in the right hypochondrium.

HISTORY OF THE PRESENT DISEASE

The section should reflect the time of occurrence of the disease and the dynamics of development before the start of curation. It is especially important to identify the symptoms, which, to some extent, allows you to decide whether the disease is acute or chronic. Through appropriate questions, it is necessary to find out: the beginning of the disease (when and how it began-suddenly or gradually), what were its manifestations, its further course (progressive or intermittent, for chronic diseases, the duration of periods of exacerbations, relapses, remissions).

It is necessary to establish the causes and reasons for the present deterioration of the disease (severe nervous tension, injuries, physical overload, eating errors, colds, and others).

Did you see a doctor, was treated and with what result, what additional tests were carried out (blood, urine, ECG, X-ray, etc.)? What were the diagnoses of the attending doctors?

Characteristics of the period preceding the present request for medical care (deterioration of the disease, the appearance of new symptoms, etc.). By

whom is the patient referred to the hospital? The nature of hospitalization (emergency, planned).

Work-expert history: whether and when the certificate of disability was issued at the time of admission to the hospital, how many days of disability.

HISTORY OF THE PATIENT'S LIFE

The question about the patient's life should begin with general biographical information: time and place of birth (geographical area), place of residence, if he changed them during his life.

Social history: the family environment in which he was born; the age of the parents, the previous illnesses. School years: when did you start studying, how did you study (how easy or difficult was it to learn), how long did you study? Did you do physical education and sports at school? General and special education of the patient. For men, service in the army.

Professional history: the beginning and nature of the work of a lifetime, professional harms in the past. Current working conditions (duration, mental or physical, night or day work). Characteristics of the working room (lighting, temperature, drafts, dust, presence of harmful substances). Use of days off, holidays. Living conditions.

Past illnesses, operations, injuries: their duration and severity, complications, ongoing treatment (in hospital, at home, outpatient, sanatorium-resort). Pay attention to venereal diseases, tuberculosis, viral hepatitis, HIV infection.

Family history: married, married, since when. For women, the beginning of menstruation, the nature and cycle of them. Pregnancies and births, stillbirths, abortions, their number, the cause of complications. Are there any living children, how many?

Heredity: it is necessary to find out the state of health of close relatives: father, mother, grandparents, sisters and brothers of the patient, children and grandchildren, sisters and brothers of the father and mother (if they died, at what age and from what causes).

Pay attention to diseases that especially affect the offspring: syphilis, tuberculosis, neuropsychiatric diseases, metabolic diseases, blood diseases, alcoholism, neoplasms.

Epidemiological history: find out whether there was contact with infectious patients (in the family, school, among neighbors, colleagues, etc.). Did you come in contact with sick animals? Ask where the patient eats (in the dining room, buffet, at home, what kind of water he uses (raw, boiled, from the water supply or from other sources). Whether he went to other cities or districts. Did any sick people come to the family from other places of residence?

Have you noticed any recent fever, vomiting, or stool disorders?

Allergic history: drug intolerance: the presence of itching, various rashes, swelling of the face after taking antibiotics and other medicinal products, food intolerance, seasonal appearance of a runny nose and lacrimation during the flowering of wormwood, ragweed, poplar.

Unhygienic bad habits: smoking (from what age he smokes and how many cigarettes a day), the use of alcoholic beverages and drugs (frequency, quantity, how he tolerates them).

Blood transfusion history: whether blood and blood substitutes were transfused, for what reason, how many times and in what quantity, whether there were complications on transfusions and how they were manifested. Whether the patient is a donor?

CURRENT STATUS

General condition: satisfactory, moderate, severe, very severe, agonal.

Consciousness: clear, stuporous (numbness), soporose (torpor), comatose.

The patient's position: active, passive, forced.

Body type: (constitution); asthenic, normosthenic, hypersthenic. Height. Weight (body weight). Body mass index (BMI = weight kg / height m2). Posture. Gait.

Body temperature: normal, low-grade, high.

The respiratory system

Chest unchanged: normosthenic (conical), hypersthenic, asthenic.

The chest is pathological: emphysematous (barrel-shaped), paralytic, rickety (keeled, chicken), funnel-shaped, navicular.

Chest deformity in spinal curvature: scoliotic, kyphotic, lordotic, kyphoscoliotic.

Asymmetry of the chest.

Type of breathing: chest, abdominal or mixed. Respiratory rate (number of respiratory movements per minute). The depth of breathing is deep, shallow.

Breathing rhythm: rhythmic, change in rhythm with deep breathing (Kussmaul's breathing), with lengthening of the inhale (inspiratory shortness of breath), with lengthening of the exhalation (expiratory shortness of breath). Periodic respiration: Biota, Cheyne-Stokes, Grokka.

Description of the results of chest palpation: corresponds to gender and age, painless, local or diffuse soreness. Soreness at the Georgievsky-Musset point (when pressing between the legs of the sternocleidomastoid muscle at the site of the projection of the diaphragmatic nerve). Soreness in the intercostal spaces. Pain when pressing on the ribs. Increase or decrease in pain when the patient is tilted to the healthy side. Elasticity (elastic, rigid). Changes in the voice tremor (gain, decrease, symmetry). The noise of pleural friction or the sound of fluid splashing in the pleural cavity.

Description of the results of lung percussion.

Topographic percussion in the patient's standing and sitting position.

|  |  |  |
| --- | --- | --- |
| Identification lines | Right lung,  intercostal space | left lung,  intercostal space |
| Parasternal  Midclavicular  Anterior axillary  Middle axillary  Posterior axillary  Spatula  Paravertebral |  |  |

Is there a shift of the lower pulmonary margin downwards or upwards, a mixture of the anterior (inner) edges of the lungs inwards and outwards? Specify the height of standing of the tops of the lungs in front and behind, the width of the Krenig margins. Is there a decrease in the standing height of the tops of the lungs and a narrowing of the Krenig fields?

Indicate the active mobility of the lungs along the midclavicular line, the middle axillary and scapular lines, the possible restriction or complete absence of active mobility in the patient.

Comparative (high-quality) percussion. The presence in the lungs of a clear pulmonary sound, dull, blunted, tympanic (box) or metallic sounds, their localization.

Description of the results of lung auscultation. Specify the type of breathing: vesicular (alveolar) breathing, vesicular breathing with prolonged exhalation, hard breathing, bronchial breathing (amphoric, metallic), bronchial-vesicular breathing.

Specify whether the wheezes are heard and what: dry wheezes - low-pitched (buzzing), high-pitched (whistling); wet wheezes - sonorous, inaudible, large-, medium-, small-bubble; crepitation initial, final; pleural friction noise. Is there any bronchophonia?

The system of the circulatory system

Describe whether there is a heart hump, a general bulge of the heart area, an apical push, a negative apical push, a cardiac push?

Describe the pulsation of the subclavian, brachial, radial, and other arteries; capillary pulse.

Describe if there is an expansion of the veins of the head, neck, upper and lower extremities, anterior surface of the trunk; pulsation of the jugular veins (positive and negative venous pulse).

Describe the pulse: frequency, rhythm, tension, filling, size, shape.

Description of the results of palpation of the heart and blood vessels. When describing the apical push, specify: localization, area, force, displacement of the apical push, associated and unrelated to the change in body position, the presence of" cat purring " in the area of the apex of the heart, at the base of the heart.

Description of the results of percussion of the heart and large vessels. The boundaries of the relative dullness of the heart: the

right border - in the II, III, IV intercostal space;

the left border is in the II, III, IV and V intercostal spaces.

Specify the size of the diameter of the heart.

To describe the bounds of absolute stupidity of the heart:

right border in the fourth intercostal space, left border – in the V intercostal space, the upper limit - level IV of the ribs above, below.

Specify the width of the vascular bundle in the II intercostal space.

Describe the results of auscultation of the heart and large vessels. Specify which heart tones: rhythmic, arrhythmic, clear, loud,muted, muffled, heart rate. Attenuation or amplification of both tones. Attenuation of the first tone, attenuation of the second tone. Changing the timbre of the heart tones: flapping, first tone, metallic tone tone, dull first top," velvet " tone, rattling first tone. Split tones. Additional notes: the third and the fourth tone. Gallop rhythm (protodiastolic, mesocestoides or presystolic gallop). The rhythm of the quail. Describe whether there are noises during auscultation of the heart? Systolic murmur. Diastolic murmur (protodiastolic, mesocestoides, presystolic). The point of maximum noise volume. Locations of heart murmurs. Timbre color (soft or blowing, rough or scratching, sawing). Blood pressure (BP) in mmHg, (according to the patient). Auscultation of the carotid and subclavian arteries — first and second tone. The femoral artery is the first tone. Double Traube tone and double Vinogradov-Durosier noise on the femoral artery, on the brachial and radial arteries. The noise of the gyroscope on the right jugular vein when turning the head to the left.

**List of abstract topics:**

1. Phonocardiography.

2. Radiography of the heart.

3. Holter monitoring.

4. Intravascular ultrasound examination.

5. Echocardiography.

6. Daily blood pressure monitoring.

7. Coronary angiography.

8. Sphygmography.

**Topic 6** Questioning, examination of a lung patient. Determination of the function of external respiration. Spirometry. Spirography. Pneumotachometry. Radiological, endoscopic methods of research. Computed tomography. Analysis of sputum and pleural fluid.

**Forms of ongoing monitoring of academic performance**

- written survey;

-oral interview;

-the decision problem and situational tasks;

-practical skills development;

-abstract.

Evaluation materials of the current control of academic performance.

Questions for the written survey:

Option 1

1. List the complaints of lung patients.

2. List the changes in the shape of the chest in lung diseases.

Option 2

1. Describe the criteria of exudate.

2. Name the invasive methods of lung examination, list their advantages and disadvantages.

**Questions for the oral survey**

1. Complaints of lung patients: cough, hemoptysis, shortness of breath, chest pain. Pathogenesis.

2. The main symptoms detected during the examination of lung patients (cyanosis, changes in the shape of the chest, respiration, cardiac shock, the symptom of "drumsticks" and "watch glasses", etc.).

3. Determination of the function of external respiration. Spirometry, spirography, pneumotachometry.

4. Radiological methods of investigation. Tomography.

5. The concept of bronchoscopy, pleural puncture, lung and pleural biopsy. Diagnostic value.

6. Sputum analysis. Clinical evaluation.

**Situational problems:**

**Task № 1**

Patients A and B are taken to the hospital with asthma attack. Both are taking a forced position – they are sitting in bed with hands on their knees. Mouth is opened. Nares are inflated. Patients are worried about cough with expectoration. The doctor has managed with eliminating asthma attacks of both patients but he doubts about the identity of the reasons of dyspnea. The sputum of both patients was directed to the laboratory for clarification of diagnosis.

**Sputum analysis**

|  |  |  |
| --- | --- | --- |
| Characteristics of sputum | Patient A | Patient B |
| Quantity, ml | 20,0 | 150,0 |
| Color | colorless | pink |
| Character | mucous | serous |
| Consistency | malleable | frothy, liquid |
| Smell | without features | without smell |
| Eosinophils | congestions | not detected |
| Epithelium | ciliated, cylindrical | squamous and alveolar epithelium, single |
| Charcot-Leyden crystals | detected | not detected |
| Kurshman’s spirals | detected | not detected |

Try to express your opinion about character of patient’s asthma attack basing on the data table.

**Task №2**

Fluorography screening has revealed patients C and D who have similar changes in the upper lobe of the right lung: the center of enlightenment (cavity) 4 cm in diameter with thick capsule, amplified pulmonary drawing due to pneumofibrosis (excrescence of connective tissue). From anamnesis we know that both of them have been ill for several years, 1-2 months a year they have threatened in the hospital. There is a low grade fever in the evenings, a little dyspnea, spitting.

**Sputum analysis**

|  |  |  |
| --- | --- | --- |
| Characteristics of sputum | Patient C | Patient D |
| Color | yellowish-green | golden-grey |
| Character | purulent-mucous | purulent |
| Consistency | viscous | viscous |
| Shape | Dual layer | Dual layer, wispish |
| Smell | putrefactive | putrefactive, musty |
| leukocytes | cover the entire field of view | cover the entire field of view |
| erythrocytes | no | 15-20 in the field of view |
| Epithelium | squamous, alveolar | alveolar, much |
| Elastic fibers | detected | detected |
| Microorganisms | streptococcus | Koch's Bacillus |
| other elements | no | crystals of hematoidin |

Remember, which diseases cause the formation of cavities in the lungs? Which features does sputum get in these cases?

**Task № 3**

Patients A and B went to the doctor of the polyclinic with complaints of subfebrile temperature, weakness, sweating, cough with a small amount of sputum. Before that, they were treated for acute respiratory disease (ARI) for a week.

To clarify the diagnosis, the sputum of patients is sent to the study.

**The results of the examination of the sputum**

|  |  |  |
| --- | --- | --- |
| Characteristics of sputum | Patient A | Patient B |
| Color | transparent | transparent |
| Character | mucous | mucous-purulent |
| Consistency | viscous | viscous |
| Smell | without smell | without smell |
| leukocytes | 14-16 in the field of view | 8-10 in the field of view |
| Epithelium | cylindrical, ciliated | alveolar |
| Microorganisms | groups of 2-3 cells of streptococci, pneumococci in the field of view | groups of 5-10 cells of streptococci, pneumococci in the field of view |

What kind of syndrome can you think of with such sputum tests? What additional methods should be used to clarify the diagnosis?

**Task № 4**

Patients A and B applied to the clinic with some similar complaints: increasing of the temperature to 38 C, weakness, cough with expectoration. The doctor determined the dullness of percussion tone at the left upper corner of the scapula and weakened vesicular respiration in an objective examination of the patients.

**Sputum analysis**

|  |  |  |
| --- | --- | --- |
| Characteristics of sputum | Patient A | Patient B |
| Color | grey | crimson |
| Character | mucous-purulent | bloody |
| Consistency | viscous | gelatinous |
| leukocytes | cover the entire field of view | single in the field of view |
| erythrocytes | up to 10 in the field of view | 15-20 in the field of view |
| Epithelium | alveolar | atypical cells |
| Microorganisms | pneumococci | **-** |
| Elastic fibers | no | detected |

What diseases can you think about having such sputum analysis? What are the evidences?

**Task№ 5**

Patients A, B, and C were admitted to the pulmonology department of the hospital. They presented many different complaints, but all of them are concerned about constant shortness of breath. Some physical data were also similar. When palpating the chest, there is no vocal tremor on the right under the scapula. A dull sound was detected percutorily below the 5th rib. Auscultation in this area of the breath was not listened to. X-ray examination revealed a darkening in the lower parts of the right lung with an oblique upper border. For diagnostic purposes, a puncture of the pleural cavity was performed.

**The results of the study pleural fluid**

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristics of the pleural fluid | Patient A | Patient B | Patient C |
| Color | straw yellow | straw yellow | bloody |
| Transparency | full | full | muddy |
| Specific gravity | 1010 | 1020 | 1022 |
| Rivalta reaction | negative | positive | positive |
| Protein | 1 % | 5 % | 5 % |
| Mesothelium cells | 0-1 in the field of view | 5-8 in the field if view | atypical cells |
| erythrocytes | - | 1-2-3 in the field of view | 20-30 in the field of view, fresh |
| neutrophils | 0-1 in the field of view | 3-5 in the field of view | 3-4 in the field of view |
| lymphocytes | 2-3 in the field of view | 20-25 in the field of view | 2-3 in the field of view |

Try to determine what type of fluid (exudate, transudate) the contents of the pleural cavity in each of these patients belong to?

**Standards of responses to situational tasks**

**Task № 1**

The described attacks of suffocation refer to very frequent conditions in the clinic-bronchial (patient A) and cardiac (patient B) asthma.

With bronchial asthma, sputum is released little, and with cardiac asthma-a lot. In cardiac asthma, sputum is formed by sweating through the vascular wall of plasma with single shaped elements (red blood cells), so it is serous in nature, liquid, foamy and pink. In bronchial asthma, sputum is a thick, viscous mucus, which contains cells of the ciliated cylindrical (bronchial) epithelium and pathognomonic signs for bronchial asthma. In particular, eosinophils, Charcot-Leyden crystals, which are formed from decaying eosinophils, and Curschmann spirals, which are slimy formations containing eosinophils, and sometimes Charcot-Leyden crystals.

**Task # 2**

Both patients have a disintegration of the lung tissue, as evidenced by the presence of purulent, double-layered sputum, elastic fibers. At the heart of this decay is an inflammatory process, the etiology of which is not the same for them. In patient B, the inflammation is caused by streptococci, and in patient G, by Koch's tubercle bacillus. Based on this study, in the first case, we can talk about a chronic lung abscess that occurred after pneumonia, and in the second – about the tuberculosis process in the lungs, complicated by the formation of a cavity.

**Task # 3**

Both patients developed complications from the bronchopulmonary apparatus after acute respiratory disease (ARI). Sputum is caused by an inflammatory process, as evidenced by the detection of white blood cells, mucus, and microorganisms. However, there is a difference: in patient A, a cylindrical ciliated epithelium was found in the sputum in groups, which indicates the localization of the process in the trachea and bronchi, in patient B-alveolar epithelium, which occurs with inflammation of the lung tissue.

**Task # 4**

In patient A, sputum is inflammatory in nature. This is indicated by the mucopurulent nature, a large number of white blood cells. The presence of alveolar epithelium indicates the localization of the process in the lungs, and the detection of pneumococci indicates the etiological factor of inflammation. Patient B secretes sputum in the form of raspberry jelly, which is a pathognomonic sign of lung cancer. This is also evidenced by the detection of atypical cells. It is known that atypical cells are found in malignant neoplasms. They differ sharply from the cells of the respiratory tract, have different sizes, and are fat or vacuolated. In both cases, we have the lung tissue infiltration syndrome, but in the first patient it is associated with lung inflammation, and in the second – with the development of tumor tissue.

**Task # 5**

In patient A, the pleural fluid is a transudate, since it contains a small amount of protein (less than 3 %), has a low specific gravity (less than 1015). In the fluid, there is no inflammatory protein-serozomucin (negative Rivalt reaction), single cellular elements are found.

Transudate occurs in chronic heart failure, and therefore this patient should be examined to clarify the nature of the heart lesion.

In patient B, exudate was obtained (specific gravity greater than 1020, protein greater than 3 %, positive Rivalt reaction). Microscopic examination revealed many lymphocytes. Among the etiological factors of exudative pleurisy, tuberculosis is in the first place. Therefore, this patient should be examined and treated by a phthisiologist.

Patient B also received exudate. However, it has some features: a bloody color, contains a large number of red blood cells and atypical cells. In this case, it should be assumed-a malignant lesion of the pleura (metastatic contamination or lung cancer).

**Practical training on a clinical basis**

**The scheme of supervision of a patient on a medical ward**

When making a fragment of the medical history, students should follow the recommended scheme of patient supervision in the therapeutic department. The medical history should be clearly and consistently written in the form of a presentation. It is necessary to conduct a complete examination of the patient's system by physical methods of research, applying for this purpose, in the study of each organ system, in strict sequence, examination, palpation, percussion and auscultation. The text of the medical history should be written in a neat, clear and legible hand, without abbreviating words. The following requirements must be met:

• Accuracy and consistency of presentation;

• Comprehensive completeness of the necessary information;

• Clarity of presentation;

• All subheadings of the medical history sections should be highlighted;

• There must be wide margins for the teacher's comments.

Sample

Title page

FSBEI of HE

"OSMA" Health Ministry of Russia

Department of Propaedeutics of Internal Diseases

Head of the Department Professor,

Doctor of Medical Sciences K. M. Ivanov

Teacher\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fragment of writing a medical history

Completed by the student\_\_\_\_\_\_\_\_of the group

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(last name, first name, patronymic of the student)

Orenburg, 2020

Name of the medical institution:

Non-governmental health care institution "Department clinical hospital of JSC" Russian Railways " on the station Orenburg

Date of admission of the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Last name, first name, patronymic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Age\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Gender\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Nationality \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Education \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Profession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Current position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Home address of the patient and close relatives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Who referred the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. The diagnosis that was sent to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Preliminary diagnosis upon admission to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. The final clinical diagnosis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

THE PATIENT'S COMPLAINTS

List the complaints that the patient himself notes at the time of questioning or noted at the time of admission to the clinic. First, you need to identify the main (leading) complaints, then the general ones. On the basis of the submitted complaints, make an assumption about the defeat of which system is in question (the respiratory system, blood circulation, etc.). Clarify whether there are any other complaints that characterize the pathology of this system, but which the patient did not mention.

It is necessary to specify the complaints.

Complaints of respiratory system damage: nasal breathing: difficulty, complete inability to breathe through the nose, feeling dry, runny nose-nasal discharge (quantity, nature, smell). Feeling of dryness and pain in the throat when speaking, swallowing; voice disturbance (hoarse, lack of voice). Chest pain: its location, the nature of the pain (acute, dull, stabbing, aching, shooting), intensity, duration, the effect on them of movement, body position, breathing and coughing, their irradiation. Shortness of breath: continuous or periodic, the appearance or increased shortness of breath when walking fast when climbing the stairs, the strength and duration of dyspnea, the appearance or strengthening it in horizontal or vertical position, the nature of dyspnea (expiratory, inspiratory, combined). Suffocation: time of appearance, strength, duration. Cough and its features: persistent or intermittent, dry or with sputum (wet). Sputum leaves freely or with difficulty, evenly or after particularly strong attacks; the time of departure (morning, afternoon, evening), the amount (per day and at a time), the smell and color of it, the allocation, depending on the position of the patient. Hemoptysis: time of occurrence, intensity, pure blood or mixed with sputum, amount of blood, character (liquid or clots), color (scarlet, black, yellow).

HISTORY OF THE PRESENT DISEASE

The section should reflect the time of occurrence of the disease and the dynamics of development before the start of curation. It is especially important to identify the symptoms, which, to some extent, allows you to decide whether the disease is acute or chronic. Through appropriate questions, it is necessary to find out: the beginning of the disease (when and how it began-suddenly or gradually), what were its manifestations, its further course (progressive or intermittent, for chronic diseases, the duration of periods of exacerbations, relapses, remissions).

It is necessary to establish the causes and reasons for the present deterioration of the disease (severe nervous tension, injuries, physical overload, eating errors, colds, and others).

Did you see a doctor, was treated and with what result, what additional tests were carried out (blood, urine, ECG, X-ray, etc.)? What were the diagnoses of the attending doctors?

Characteristics of the period preceding the present request for medical care (deterioration of the disease, the appearance of new symptoms, etc.). By

whom is the patient referred to the hospital? The nature of hospitalization (emergency, planned).

Work-expert history: whether and when the certificate of disability was issued at the time of admission to the hospital, how many days of disability.

HISTORY OF THE PATIENT'S LIFE

The question about the patient's life should begin with general biographical information: time and place of birth (geographical area), place of residence, if he changed them during his life.

Social history: the family environment in which he was born; the age of the parents, the previous illnesses. School years: when did you start studying, how did you study (how easy or difficult was it to learn), how long did you study? Did you do physical education and sports at school? General and special education of the patient. For men, service in the army.

Professional history: the beginning and nature of the work of a lifetime, professional harms in the past. Current working conditions (duration, mental or physical, night or day work). Characteristics of the working room (lighting, temperature, drafts, dust, presence of harmful substances). Use of days off, holidays. Living conditions.

Past illnesses, operations, injuries: their duration and severity, complications, ongoing treatment (in hospital, at home, outpatient, sanatorium-resort). Pay attention to venereal diseases, tuberculosis, viral hepatitis, HIV infection.

Family history: married, married, since when. For women, the beginning of menstruation, the nature and cycle of them. Pregnancies and births, stillbirths, abortions, their number, the cause of complications. Are there any living children, how many?

Heredity: it is necessary to find out the state of health of close relatives: father, mother, grandparents, sisters and brothers of the patient, children and grandchildren, sisters and brothers of the father and mother (if they died, at what age and from what causes).

Pay attention to diseases that especially affect the offspring: syphilis, tuberculosis, neuropsychiatric diseases, metabolic diseases, blood diseases, alcoholism, neoplasms.

Epidemiological history: find out whether there was contact with infectious patients (in the family, school, among neighbors, colleagues, etc.). Did you come in contact with sick animals? Ask where the patient eats (in the dining room, buffet, at home, what kind of water he uses (raw, boiled, from the water supply or from other sources). Whether he went to other cities or districts. Did any sick people come to the family from other places of residence?

Have you noticed any recent fever, vomiting, or stool disorders?

Allergic history: drug intolerance: the presence of itching, various rashes, swelling of the face after taking antibiotics and other medicinal products, food intolerance, seasonal appearance of a runny nose and lacrimation during the flowering of wormwood, ragweed, poplar.

Unhygienic bad habits: smoking (from what age he smokes and how many cigarettes a day), the use of alcoholic beverages and drugs (frequency, quantity, how he tolerates them).

Blood transfusion history: whether blood and blood substitutes were transfused, for what reason, how many times and in what quantity, whether there were complications on transfusions and how they were manifested. Whether the patient is a donor?

CURRENT STATUS

General condition: satisfactory, moderate, severe, very severe, agonal.

Consciousness: clear, stuporous (numbness), soporose (torpor), comatose.

The patient's position: active, passive, forced.

Body type: (constitution); asthenic, normosthenic, hypersthenic. Height. Weight (body weight). Body mass index (BMI = weight kg / height m2). Posture. Gait.

Body temperature: normal, low-grade, high.

The respiratory system

Chest unchanged: normosthenic (conical), hypersthenic, asthenic.

The chest is pathological: emphysematous (barrel-shaped), paralytic, rickety (keeled, chicken), funnel-shaped, navicular.

Chest deformity in spinal curvature: scoliotic, kyphotic, lordotic, kyphoscoliotic.

Asymmetry of the chest.

Type of breathing: chest, abdominal or mixed. Respiratory rate (number of respiratory movements per minute). The depth of breathing is deep, shallow.

Breathing rhythm: rhythmic, change in rhythm with deep breathing (Kussmaul's breathing), with lengthening of the inhale (inspiratory shortness of breath), with lengthening of the exhalation (expiratory shortness of breath).

Periodic respiration: Biota, Cheyne-Stokes, Grokka.

Description of the results of chest palpation: corresponds to gender and age, painless, local or diffuse soreness. Soreness at the Georgievsky-Musset point (when pressing between the legs of the sternocleidomastoid muscle at the site of the projection of the diaphragmatic nerve). Soreness in the intercostal spaces. Pain when pressing on the ribs. Increase or decrease in pain when the patient is tilted to the healthy side. Elasticity (elastic, rigid). Changes in the voice tremor (gain, decrease, symmetry). The noise of pleural friction or the sound of fluid splashing in the pleural cavity.

Description of the results of lung percussion.

Topographic percussion in the patient's standing and sitting position.

|  |  |  |
| --- | --- | --- |
| Identification lines | Right lung,  intercostal space | left lung,  intercostal space |
| Parasternal  Midclavicular  Anterior axillary  Middle axillary  Posterior axillary  Spatula  Paravertebral |  |  |

Is there a shift of the lower pulmonary margin downwards or upwards, a mixture of the anterior (inner) edges of the lungs inwards and outwards? Specify the height of standing of the tops of the lungs in front and behind, the width of the Krenig margins. Is there a decrease in the standing height of the tops of the lungs and a narrowing of the Krenig fields?

Indicate the active mobility of the lungs along the midclavicular line, the middle axillary and scapular lines, the possible restriction or complete absence of active mobility in the patient.

Comparative (high-quality) percussion. The presence in the lungs of a clear pulmonary sound, dull, blunted, tympanic (box) or metallic sounds, their localization.

Description of the results of lung auscultation. Specify the type of breathing: vesicular (alveolar) breathing, vesicular breathing with prolonged exhalation, hard breathing, bronchial breathing (amphoric, metallic), bronchial-vesicular breathing.

Indicate whether the wheezes are heard and what: dry wheezes — low-pitched (buzzing), high-pitched (whistling); wet wheezes — sonorous, non-sonorous, large -, medium -, small-bubbled; crepitation initial, final; pleural friction noise. Is there any bronchophonia?

**List of abstract topics:**

1. Fibrobronchoscopy.

2. Retngenography of the chest organs.

3. Study of the function of external respiration.

4. Computed tomography of the chest organs.

5. Radioisotope diagnostics of respiratory system damage.

**Topic 7.** Questioning and examination of patients with diseases of the digestive system. Laboratory-instrumental and radiological methods of research.

**Forms of ongoing monitoring of academic performance:**

-written survey;

-oral survey;

-the solution of the problem-situational tasks;

-the development of practical skills;

-report.

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

Option 1

1. List the patient's complaints about gastrointestinal diseases

2. Describe the features of the study of gastric contents

Option 2

1. The change in which indicators in the study of gastric contents is characteristic of stomach ulcers.

2. List the indications and contraindications for FGDS

**Questions for the oral survey:**

1. Complaints of patients with gastrointestinal diseases. Pathogenesis.

2. General and private examination of these patients.

3. X-ray and endoscopic methods of investigation.

1. Examination of gastric juice and duodenal contents. Clinical evaluation. A stool sample.

**Solving situational problems:**

**Task # 1**

The following data were obtained during fractional probing in patient A:

Trial breakfast-cabbage

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color | 20  8  0  8  no color | 10  18  10  6  blue | 50  26  14  12  blue | 20  32  24  8  pale blue | 15  48  30  18  no color | 30  50  23  16  no color | 25  50  26  14  no color | 20  60  28  12  no color | 22  60  30  12  no color | Single nuclei of white blood  cells.  The epithelium is cylindrical,  flat, single, and in  small groups. |

debit-hour HCI 2.82-meq/hour;

free HCI flow rate-1.73 meq / hour;

debit-hour of the associated HCI - 1.27 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 20 mg.

Are there any signs of stomach damage in this case?

**Task # 2**

Patients B and C had epigastic pain a few months ago, 30 to 60 minutes after eating, acid belching, heartburn, and intermittent vomiting. They were sent to the hospital for examination for the first time. Palpation revealed a slight pain in the epigastric region.

When examining the gastric contents, the following changes were found:

**Examination of the gastric contents of patient B**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  mucos | 80  28  16  12  no color + | 10  21  15  6  blue  + | 100  64  36  28  blue  + | 60  78  42  36  blue  + | 40  96  58  38  blue  + | 60  88  60  28  Pale blue.  + | 30  84  75  9  no color + | 40  84  59  25  no color  + | 50  74  49  25  no color  + | White blood cells, a  significant  amount.  Gastric epithelium  accumulations. |

debit-hour HCI 15.13 meq / hour;

debit-hour of free HCI 8.55 meq / hour;

debit-hour of the associated HCI 6.54 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 70 mg

**Examination of the gastric contents of the patient C**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 mn | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  mucos  blood | 120  36  20  16  no color  +  + | 10  20  12  8  blue  +  + | 120  58  36  22  blue.  +  + | 80  59  42  17  blue.  + | 50  74  54  20  blue.  + | 60  77  56  21  blue  + | 40  120  85  35  Pale blue  + | 30  131  90  41  Pale blue  .  + | 50  126  85  41  Pale blue  + | Red blood cells in  groups.  Gastric epithelium  accumulations.  White blood cell nuclei. |

debit-hour HCI 15.58 meq / hour;

debit-hour of free HCI 10.50 meq / hour;

debit-hour of the associated HCI 5.08 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 65 mg.

What diseases can you think of from these tests?

**Task # 3**

Patients K and N. were hospitalized in the ward. Both complain of dull, constant pain in the epigastrium, which increases after eating, poor appetite, and weight loss. They are ill for about 5 years. The doctor prescribed gastric probing for the purpose of examination of the patients. The following data were obtained:

**Examination of the gastric contents of the patient K**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  Lactic acid  Blood  Bile | -  -  -  -  -  -  -  - | 20  2  0  2  blue.  +  + | 40  7  0  7  Pale blue  +  + | 9  5  0  5  no color  +  + | 6  6  0  6  no color  +  + | 7  6  0  6  no color  +  +  + | 3  5  0  5  Pale pink.  +  +  + | 3  4  0  4  Pale pink.  +  +  + | 2  3  0  3  Pale pink.  +  +  + | Red blood cells.  Sticks of lactic acid  fermentation.  White blood cell nuclei.  Sarcinae.  Yeast fungi |

debit-hour HCI 0.42 meq / hour;

debit-hour of free HCI --;

debit-hour of bound HCI 0.42 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 1 mg.

**Examination of the gastric contents of patient N**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color | -  -  -  -  - | 12  4  0  4  blue | 25  8  0  8  Pale blue | 10  5  0  5  No color | 6  6  0  6  No color | 8  4  0  4  yellow | 4  3  0  3  No color | 3  2  0  2  No color |  | White blood cells in a significant amount.  Single red blood cells. Epithelial cells  the cells are unchanged. |

Rennet enzyme in 1:10 dilution not detected HCI

flow rate 0.53 meq / h;

debit-hour of free HCI -;

debit-hour of bound HCI 0.53 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 0 mg.

What diseases can you think of based on the analysis of gastric juice?

**Task # 4**

Upon admission to the hospital, the patient complained of aversion to food, especially meat, unpleasant sensations in the epigastrium, weight loss for 2 months by 8 kg, weakness, reduced performance, about 3 weeks in the evenings subfebrile temperature. From the anamnesis, it is known that the disease began about six months ago without any apparent reason for the patient with unpleasant sensations in the epigastrium. I was not examined, I was treated independently with No-shpa tablets. Objective examination revealed that the patient is emaciated, the skin turgor is reduced, the skin and mucous membranes are pale. The tongue is dry, covered with a white coating, an unpleasant smell from the mouth. The abdomen is of the usual shape, the anterior abdominal wall is thinned. With superficial palpation, there is pain in the epigastric region, and with deep palpation in the stomach, a seal up to 5 cm in diameter is clearly palpated, dense, sedentary, painful, the liver is not palpated. Palpation of the intestine revealed no pathology.

The study of gastric juice revealed the absence of free hydrochloric acid, combined with the absence of pepsin and the presence of lactic acid. When roentgenoscopy of the stomach is noted by the large curvature of the "filling defect", the lack of accommodation of the stomach. Your diagnosis?

**Task # 5**

Patient P. complains of daily pain of a cutting nature in the epigastrium, appearing 2-3 hours after eating and even at night, heartburn, acid belching. Sometimes there is vomiting of acidic contents, which brings relief. Stool – once every 3 days. From the anamnesis, it is known that he considers himself ill for about three years, the onset of the disease is associated with nervous stress. Notes the deterioration of the condition every fall and spring. In an objective study, the consciousness is clear, the physique is normosthenic, the diet is normal. The skin is clean, of normal color, the tongue is overlaid with a gray-white coating. The abdomen is soft, with deep palpation is determined by tenderness in the region of the pylorus. The liver is not palpable. On the part of the intestine, no pathology was detected during palpation. Study of gastric juice:

The dose on an empty stomach: the number — 160 ml; total acidity — 70; FL. NS1-60. Basal secretion: time-1 h.; quantity-356 ml; total acidity-65-105; free. NS1 — 48-86. Maximum secretion (after the introduction of a decoction of dry cabbage): time-1 h.; quantity-320 ml; total acidity-78-115; free. NS1 - 60-92. The test for lactic acid content is negative. Content: gray color. There is no smell or impurity. Leu in a significant amount. Cylindrical epithelium up to 36 in the field of view. Eg fresh, up to 10 in the field of view. Mucus in large quantities.

During the X-ray examination, a "niche"was found in the area of the bulb 12-P. K. With EGDS-hyperemia and swelling of the mucosa of the bulb 12-P. K., a defect of the mucosa with a diameter of up to 2 cm. What should the doctor think about?

**Task # 6**

A patient was admitted to the therapeutic department, who complained of a feeling of heaviness and swelling in the epigastrium, weight loss, nausea, frequent vomiting.

For the study, the patient's vomit was delivered to the laboratory, which had an unpleasant smell of rotten eggs, contained air bubbles, remnants of food eaten a day ago, and a lot of mucus. Total acidity – 10 titration units, free-0 titration units.

What kind of stomach damage should I think about in this case?

**Task # 7**

Duodenal probing was performed on the patient and in the order of examination of the gastrointestinal tract. The following data was received:

Bile "A"

Transparency Full

Color golden yellow

White blood cells 2-3 in the field of vision

Bile "B"

Transparency Full

Color dark green

White blood cells 5-10 in the field of vision

Bile "C"

Transparency Full

Color golden yellow

White blood cells 1-2 in the field of vision

How do you assess the result presented above? Is there a lesion of the biliary tract in this patient?

Task # 9

Patients M and N, who are being treated in the therapeutic department, had complaints of pain in the right hypochondrium with radiation to the right shoulder and shoulder blade, which worsened after eating fatty and spicy food, accompanied by fever, nausea and vomiting with bile.

As a routine examination, he conducted a study of the duodenal contents; the following results were obtained:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Patient М | | Patient Н |
| Colour  White blood cells  Mucus  Transparency  Colour  White blood cells  Mucus  Giardia  Прозрачность  Цвет  Лейкоциты  Слизь | Bile “A”  Golden-yellow  2 – 3 in the field of view  no  Bile “B "  cloudy  dark green  20-30 in the field of view of  flakes, a significant amount  there is  Bile “C "  cloudy  golden yellow  1-2 in the field of view a little  bit | yellow  30-40 in the field of view  moderate  muddy with flakes of  dark green  cover the entire field  -  -  cloudy  yellow up  to 40 in the field of view there  is | |

What kind of diseases you can think of, with such data?

Standards of responses to situational tasks

Task # 1

On an empty stomach, there is a small amount of juice in the stomach (no more than 50 ml), with low figures of total acidity. After a trial breakfast, the total and free acidity does not exceed the norm. There is a normal evacuation from the stomach. Microscopy revealed individual epithelial cells and the nuclei of white blood cells.

Thus, in this case, the study of gastric juice pathology in patient A was not revealed.

Task # 2

The obtained tests of gastric juice in patients B and C have a lot in common. So, there is hypersecretion on an empty stomach (the amount of juice is more than 50 ml). The total and free acidity in individual portions exceeds the norm (60 and 40 units, respectively). However, some differences are also revealed. So, the patient's evacuation from the stomach is somewhat slowed down (the staining of gastric juice disappears only after 1.5 hours, against 1 hour). In all portions there is an admixture of blood (which indicates gastric bleeding). This is also confirmed by the detection of red blood cells during microscopic examination.

This combination of hypersecretion, hyperacid state, and blood admixture in the gastric contents is characteristic of peptic ulcer disease.

In patient B, in addition to the above changes, a lot of mucus, white blood cells, and gastric epithelium were found. The combination of hypersecretion, hyperchlorhydria, and inflammatory changes is characteristic of chronic gastritis with increased secretory function.

Task # 3

In both patients, hyposecretion was detected – there is no gastric juice on an empty stomach, and after a trial breakfast, the amount of juice is very small (less than 50 ml). The total acidity is reduced, and the free one is absent (achlorhydria). Usually, it is possible to finally judge the possibility of producing hydrochloric acid only after conducting a histamine test. The evacuation of the stomach is also accelerated (after 45 minutes, the color of the stomach contents disappears).

No rennet was found in patient H, indicating achilia. Microscopy of the gastric contents revealed a significant number of white blood cells, not altered epithelial cells, which indicates an inflammatory process in the stomach. Thus, the patient has evidence in favour filchenkova gastritis.

In patient K, lactic acid and blood were found in the gastric contents. Microscopy revealed no data for the inflammatory process, but various microorganisms were found. Normally, they are not present, but they appear in the absence of the bactericidal action of hydrochloric acid. The data obtained from him is suspicious for stomach cancer, as there are signs of bleeding, which in this situation may be due to the disintegration of the tumor tissue.

Task # 4

Cancer of the stomach.

Task # 5

Peptic ulcer: ulcer of the bulb of the 12-p. intestine.

Task # 6

By the copious amount of vomit with the content of food in them, eaten a few days ago, you can suspect the stenosis of the pylorus. This diagnosis is confirmed by the patient's complaints of heaviness, a feeling of fullness in the stomach. Pyloric stenosis develops with scarring of a duodenal ulcer or stomach cancer. The absence of hydrochloric acid in the stomach contents indicates stomach cancer.

Task # 7

All portions of bile have a characteristic color, are transparent, and contain single white blood cells. In the portion " B "there are always a few more white blood cells than in the portions" A " and "C", since the cystic bile is more concentrated. Pathological impurities (mucus, salt crystals, parasites) are absent in them.

Based on this, it can be concluded that the patient has a normal bile composition, and therefore there is no damage to the bile ducts.

Task # 8

Patient K has a lot of white blood cells in all portions, which indicates an inflammatory process in the gallbladder and bile ducts. In the gallbladder bile and the portions of the “C” contains a lot of cholesterol crystals, which indicates calculous character cholecysto-cholangitis.

In patient L, pathological changes were detected in portions " A " and "B". Due to the fact that the contents of portion " A " do not have a decisive diagnostic value.

values can be considered that the inflammatory process is localized in the gallbladder. In addition, a portion of " B " contains a lot of cholesterol crystals and giardia. Consequently, calculous cholecystitis of giardiasis etiology takes place.

Task # 9

In patient M, there are pathological changes only in the portion "B", that is, in the bubble portion. Bile contains a lot of white blood cells, mucus in the form of flakes, which indicates an inflammatory process in the gallbladder. The presence of giardia in it indicates the etiological factor of this inflammation (giardial cholecystitis).

In patient H, large amounts of white blood cells and mucus were found in all portions. Based on these data, it is possible to think about the presence of cholecystitis in the patient in combination with cholangitis.

**Practical training on a clinical basis**

**The scheme of supervision of a patient on a medical ward**

When making a fragment of the medical history, students must adhere to the recommended scheme of patient supervision in the therapeutic department. The medical history should be made clear and consistent, written in the form of a statement. It is necessary to conduct a complete examination of the patient's system by physical methods of research, using for this purpose, in the study of each organ system, in strict sequence, examination, palpation, percussion and auscultation. The text of the medical history should be written in a neat, clear and legible handwriting, without abbreviating words. The following requirements must be met:

• Accuracy and consistency of presentation;

• Comprehensive completeness of the necessary information;

• Clarity of presentation;

• All subheadings of the medical history sections should be highlighted;

• There must be wide margins for the teacher's comments.

Sample

Title page

FSBEI of HE

"OSMA" Health Ministry of Russia

Department of Propaedeutics of Internal Diseases

Head of the Department Professor,

Doctor of Medical Sciences K. M. Ivanov

Teacher\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fragment of writing a medical history

Completed by the student\_\_\_\_\_\_\_\_of the group

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(last name, first name, patronymic of the student)

Orenburg, 2020

Name of the medical institution:

Non-governmental health care institution "Department clinical hospital of JSC" Russian Railways " on the station Orenburg

Date of admission of the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Last name, first name, patronymic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Age\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Gender\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Nationality \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Education \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Profession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Current position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Home address of the patient and close relatives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Who referred the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. The diagnosis that was sent to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Preliminary diagnosis upon admission to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. The final clinical diagnosis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

THE PATIENT'S COMPLAINTS

List the complaints that the patient himself notes at the time of the interview or noted at the time of admission to the clinic. First, you need to identify the main (leading) complaints, then the general ones. On the basis of the submitted complaints, make an assumption about the defeat of which system is in question (the respiratory system, blood circulation, etc.). Clarify whether there are any other complaints that characterize the pathology of this system, but which the patient did not mention.

It is necessary to specify the complaints.

Complaints of respiratory system damage: nasal breathing: difficulty, complete inability to breathe through the nose, feeling dry, runny nose-nasal discharge (quantity, nature, smell). Feeling of dryness and pain in the throat when speaking, swallowing; voice disturbance (hoarse, lack of voice). Chest pain: its location, the nature of the pain (acute, dull, stabbing, aching, shooting), intensity, duration, the effect on them of movement, body position, breathing and coughing, their irradiation. Shortness of breath: continuous or periodic, the appearance or increased shortness of breath when walking fast when climbing the stairs, the strength and duration of dyspnea, the appearance or strengthening it in horizontal or vertical position, the nature of dyspnea (expiratory, inspiratory, combined). Suffocation: time of appearance, strength, duration. Cough and its features: persistent or intermittent, dry or with sputum (wet). Sputum leaves freely or with difficulty, evenly or after particularly strong attacks; the time of departure (morning, afternoon, evening), the amount (per day and at a time), the smell and color of it, the allocation, depending on the position of the patient. Hemoptysis: time of occurrence, intensity, pure blood or mixed with sputum, amount of blood, character (liquid or clots), color (scarlet, black, yellow).

Complaints of damage to the circulatory system: pain in the heart or behind the sternum: nature (stabbing, squeezing, pressing); strength; duration (constant or paroxysmal); radiation; conditions under which pain occurs; behavior of the patient during pain; from what measures the pain calms down. Heartbeat: constant or intermittent; intensity;" interruptions " in the work of the heart; duration; connection with physical tension, movements, agitation, at rest, after eating, in a horizontal position, when the external temperature changes. Shortness of breath: (see above). Edema: their localization, features of appearance (in the morning, in the evening), permanent or disappearing, the intensity of their appearance, the connection with physical stress, fluid intake, heaviness in the right hypochondrium.

Complaints about the defeat of the digestive system: appetite: good, satisfactory, lack of appetite, greed for food, perversion of appetite. Aversion to food, especially meat, or fast satiety.

Taste: unpleasant taste in the mouth, bitter taste, sweet, lack or perversion of taste.

Dry mouth: when agitated, thirsty, feverish.

Swallowing: painful, free, impossible, difficult, difficulty swallowing dry or liquid food.

Belching: empty, by air, bitter, sour, rotten, by food; time of its appearance, intensity, duration.

Heartburn: frequency of occurrence, intensity, duration. Does it depend on the intake and type of food?

Nausea: the frequency of occurrence, duration, depends on the type of food, on an empty stomach, with dizziness, when changing the position of the body, balance disorders.

Vomiting: time of occurrence (on an empty stomach, after eating); duration, whether it depends on the type of food, medication. The amount of gastric contents removed by vomiting. The taste of vomit: without taste, sour, bitter. The nature of vomiting: indigestibility, pieces of food eaten long before vomiting, foamy vomit, their yellowish-green color from the admixture of blood to the vomit, in what quantity and form (unchanged or altered blood), vomiting with pure blood, in the form of coffee grounds, vomiting yellow or dark brown with a fecal odor. Relief after vomiting.

Unpleasant sensations in the epigastric region: their appearance from any food or depending on the type of food, the quality or quantity of food.

Pain in the epigastric region: localization and nature of pain, intensity.

Radiating pain: drilling pain in the epigastric region, radiating to the spine, radiating to the right shoulder blade, to the right shoulder. The conditions under which pain occurs: the relationship with the nature, quantity and quality of the food taken. Pain in the epigastric region, depending on the food, regardless of the food. How long after a meal there is pain (pain on an empty stomach or "hunger pains", night pains).

Duration of pain: whether the pain goes away after eating food or liquid, taking soda, after vomiting or gas discharge. The effect of changes in body position and movement on the strengthening, weakening and cessation of pain.

The frequency of pain: the duration of light intervals, the time of year (autumn, winter, spring, summer).

What is accompanied by pain: nausea, vomiting, fever, headaches, delayed stools or liquid stools, gas retention, the appearance of tar-like stools.

Abnormal feeling in the abdomen: bloating, feeling of transfusion, rumbling. The pain is sharp, cutting, dull, aching, constant, cramping.

Stool: the number of bowel movements, if the stool is not daily, then after how many days. The action of the intestine is independent, with an enema or laxatives. Feeling of incomplete emptying. Diarrhea with an indication of the frequency of bowel movements. Change of diarrhea by constipation. Involuntary bowel movement. Pain during the act of defecation. Tenesmus. Itching in the rectum. Rectal prolapse.

Stool: decorated, mushy, liquid, solid, nuts - "sheep" feces, color. An admixture of blood and mucus.

Discharge of gases: free, moderate, plentiful, odorless, with a sharp smell.

HISTORY OF THE PRESENT DISEASE

The section should reflect the time of occurrence of the disease and the dynamics of development before the start of curation. It is especially important to identify the symptoms, which, to some extent, allows you to decide whether the disease is acute or chronic. Through appropriate questions, it is necessary to find out: the beginning of the disease (when and how it began-suddenly or gradually), what were its manifestations, its further course (progressive or intermittent, for chronic diseases, the duration of periods of exacerbations, relapses, remissions).

It is necessary to establish the causes and reasons for the present deterioration of the disease (severe nervous tension, injuries, physical overload, eating errors, colds, and others).

Did you see a doctor, was treated and with what result, what additional tests were carried out (blood, urine, ECG, X-ray, etc.)? What were the diagnoses of the attending doctors?

Characteristics of the period preceding the present request for medical care (deterioration of the disease, the appearance of new symptoms, etc.). By

whom is the patient referred to the hospital? The nature of hospitalization (emergency, planned).

Work-expert history: whether and when the certificate of disability was issued at the time of admission to the hospital, how many days of disability.

HISTORY OF THE PATIENT'S LIFE

The question about the patient's life should begin with general biographical information: time and place of birth (geographical area), place of residence, if he changed them during his life.

Social history: the family environment in which he was born; the age of the parents, the previous illnesses. School years: when did you start studying, how did you study (how easy or difficult was it to learn), how long did you study? Did you do physical education and sports at school? General and special education of the patient. For men, service in the army.

Professional history: the beginning and nature of the work of a lifetime, professional harms in the past. Current working conditions (duration, mental or physical, night or day work). Characteristics of the working room (lighting, temperature, drafts, dust, presence of harmful substances). Use of days off, holidays. Living conditions.

Past illnesses, operations, injuries: their duration and severity, complications, ongoing treatment (in hospital, at home, outpatient, sanatorium-resort). Pay attention to venereal diseases, tuberculosis, viral hepatitis, HIV infection.

Family history: married, married, since when. For women, the beginning of menstruation, the nature and cycle of them. Pregnancies and births, stillbirths, abortions, their number, the cause of complications. Are there any living children, how many?

Heredity: it is necessary to find out the state of health of close relatives: father, mother, grandparents, sisters and brothers of the patient, children and grandchildren, sisters and brothers of the father and mother (if they died, at what age and from what causes).

Pay attention to diseases that especially affect the offspring: syphilis, tuberculosis, neuropsychiatric diseases, metabolic diseases, blood diseases, alcoholism, neoplasms.

Epidemiological history: find out whether there was contact with infectious patients (in the family, school, among neighbors, colleagues, etc.). Did you come in contact with sick animals? Ask where the patient eats (in the dining room, buffet, at home, what kind of water he uses (raw, boiled, from the water supply or from other sources). Whether he went to other cities or districts. Did any sick people come to the family from other places of residence?

Have you noticed any recent fever, vomiting, or stool disorders?

Allergic history: drug intolerance: the presence of itching, various rashes, swelling of the face after taking antibiotics and other medicinal products, food intolerance, seasonal appearance of a runny nose and lacrimation during the flowering of wormwood, ragweed, poplar.

Unhygienic bad habits: smoking (from what age he smokes and how many cigarettes a day), the use of alcoholic beverages and drugs (frequency, quantity, how he tolerates them).

Blood transfusion history: whether blood and blood substitutes were transfused, for what reason, how many times and in what quantity, whether there were complications on transfusions and how they were manifested. Whether the patient is a donor?

CURRENT STATUS

General condition: satisfactory, moderate, severe, very severe, agonal.

Consciousness: clear, stuporous (numbness), soporose (torpor), comatose.

The patient's position: active, passive, forced.

Body type: (constitution); asthenic, normosthenic, hypersthenic. Height. Weight (body weight). Body mass index (BMI = weight kg / height m2). Posture. Gait.

Body temperature: normal, low-grade, high.

The respiratory system

Chest unchanged: normosthenic (conical), hypersthenic, asthenic.

The chest is pathological: emphysematous (barrel-shaped), paralytic, rickety (keeled, chicken), funnel-shaped, navicular.

Chest deformity in spinal curvature: scoliotic, kyphotic, lordotic, kyphoscoliotic.

Asymmetry of the chest.

Type of breathing: chest, abdominal or mixed. Respiratory rate (number of respiratory movements per minute). The depth of breathing is deep, shallow.

Breathing rhythm: rhythmic, change in rhythm with deep breathing (Kussmaul's breathing), with lengthening of the inhale (inspiratory shortness of breath), with lengthening of the exhalation (expiratory shortness of breath).

Periodic respiration: Biota, Cheyne-Stokes, Grokka.

Description of the results of chest palpation: corresponds to gender and age, painless, local or diffuse soreness. Soreness at the Georgievsky-Musset point (when pressing between the legs of the sternocleidomastoid muscle at the site of the projection of the diaphragmatic nerve). Soreness in the intercostal spaces. Pain when pressing on the ribs. Increase or decrease in pain when the patient is tilted to the healthy side. Elasticity (elastic, rigid). Changes in the voice tremor (gain, decrease, symmetry). The noise of pleural friction or the sound of fluid splashing in the pleural cavity.

Description of the results of lung percussion.

Topographic percussion in the patient's standing and sitting position.

|  |  |  |
| --- | --- | --- |
| Identification lines | Right lung,  intercostal space | left lung,  intercostal space |
| parasternal  midclavicular  Anterior axillary  Middle axillary  Posterior axillary  Spatula  Paravertebral |  |  |

Is there a shift of the lower pulmonary margin downwards or upwards, a mixture of the anterior (inner) edges of the lungs inwards and outwards? Specify the height of standing of the tops of the lungs in front and behind, the width of the Krenig margins. Is there a decrease in the standing height of the tops of the lungs and a narrowing of the Krenig fields?

Indicate the active mobility of the lungs along the midclavicular line, the middle axillary and scapular lines, the possible restriction or complete absence of active mobility in the patient.

Comparative (high-quality) percussion. The presence in the lungs of a clear pulmonary sound, dull, blunted, tympanic (box) or metallic sounds, their localization.

Description of the results of lung auscultation. Specify the type of breathing: vesicular (alveolar) breathing, vesicular breathing with prolonged exhalation, hard breathing, bronchial breathing (amphoric, metallic), bronchial-vesicular breathing.

Specify whether the wheezes are heard and what: dry wheezes — low-pitched (buzzing), high-pitched (whistling); wet wheezes — sonorous, inaudible, large-, medium-, small-bubble; crepitation initial, final; pleural friction noise. Is there any bronchophonia?

The system of the circulatory system

Describe whether there is a heart hump, a general bulge of the heart area, an apical push, a negative apical push, a cardiac push?

Describe the pulsation of the subclavian, brachial, radial, and other arteries; capillary pulse.

Describe if there is an expansion of the veins of the head, neck, upper and lower extremities, anterior surface of the trunk; pulsation of the jugular veins (positive and negative venous pulse).

Describe the pulse: frequency, rhythm, tension, filling, size, shape.

Description of the results of palpation of the heart and blood vessels. When describing the apical push, specify: localization, area, force, displacement of the apical push, associated and unrelated to the change in body position, the presence of" cat purring " in the area of the apex of the heart, at the base of the heart.

Description of the results of percussion of the heart and large vessels. The boundaries of the relative dullness of the heart: the

right border - in the II, III, IV intercostal space;

the left border is in the II, III, IV and V intercostal spaces.

Specify the size of the diameter of the heart.

To describe the bounds of absolute stupidity of the heart:

right border in the fourth intercostal space, left border – in the V intercostal space, the upper limit - level IV of the ribs above, below.

Specify the width of the vascular bundle in the II intercostal space.

Describe the results of auscultation of the heart and large vessels. Specify which heart tones: rhythmic, arrhythmic, clear, loud,muted, muffled, heart rate. Attenuation or amplification of both tones. Attenuation of the first tone, attenuation of the second tone. Changing the timbre of the heart tones: flapping, first tone, metallic tone tone, dull first top," velvet " tone, rattling first tone. Split tones. Additional notes: the third and the fourth tone. Gallop rhythm (protodiastolic, mesocestoides or presystolic gallop). The rhythm of the quail. Describe whether there are noises during auscultation of the heart? Systolic murmur. Diastolic murmur (protodiastolic, mesocestoides, presystolic). The point of maximum noise volume. Locations of heart murmurs. Timbre color (soft or blowing, rough or scratching, sawing). Blood pressure (BP) in mmHg, (according to the patient). Auscultation of the carotid and subclavian arteries — first and second tone. The femoral artery is the first tone. Double Traube tone and double Vinogradov-Durosier noise on the femoral artery, on the brachial and radial arteries. The noise of the gyroscope on the right jugular vein when turning the head to the left.

The system of digestive organs

Describe the condition of the oral mucosa - the presence of ulcers, pigmentation, hemorrhages, spots. Changes in the gums (looseness of the gums, their bleeding), the condition of the teeth.

To characterize the tongue: the increase in the size of the tongue, the color of the tongue, the coating, the condition of the papillae, the presence of ulcers (the tongue is clean and moist, gray-white, crimson, bad-smelling, dry, atrophic).

Bad breath (putrid, acetone, uremic, hepatic). Phenomena of angular stomatitis - inflammation of the mucous membrane and skin in the corners of the mouth. Cracked lips (zaeda).

Description of the abdomen. Features of the skin of the abdomen and the degree of development of subcutaneous fat. An increase in the size of the abdomen due to obesity, ascites, flatulence, the presence of a tumor, an increase in the liver, spleen, and lymph nodes. The unevenness of the increase in different parts of abdomen. The presence of hernial protrusion: umbilical hernia, expansion of the umbilical ring, postoperative ventral hernia, hernia of the white line of the abdomen.

Expansion of the venous network in the anterior abdominal wall ("medusa's head").

Description of the results palpation of the abdominal wall and abdominal organs. Surface, approximate palpation of the anterior abdominal wall-to determine the general and local soreness, the degree of muscle tension (defans), enlarged organs (liver, spleen), the presence of a hernia.

Using deep, sliding, topographic and methodical palpation according to Obraztsov-Strazhesco, give a description of the palpable areas (list sigmoid, blind, transverse colon, etc.): soft, painless.

In the presence of pathology, describe: what part of the intestine is dense, painful, motionless, non-rumbling, lumpy, strongly peristaltic, accumulation of liquid contents and gas.

Stomach-the possibility of palpatory determination of large and small curvature.

Pancreas - normally, palpation is not determined, but with superficial and deep palpation, there may be painlessness in the right and middle parts of the epigastrium, muscle tension.

Liver-features of the lower edge, shape (smooth, uneven), consistency (dense, soft), shape (pointed, rounded), soreness. Localization of the lower edge of the liver in relation to the costal arch. The surface of the liver is smooth, uneven, large-or small-nodular.

Description of the results of percussion of the abdominal organs

Specify the large, medium and small sizes of hepatic dullness according to Kurlov in centimeters.

List of abstract topics:

1. Roentgenoscopy of the stomach and duodenum.

2. Esophagogastroduodenoscopy.

3. Computer or virtual colonoscopy.

4. Rectoromanoscopy.

5. Ultrasound examination of the gastrointestinal tract.

6. Capsule endoscopy.

7. Balloon enteroscopy.

8. Pressure gauge.

9. Scintigraphy.

**Topic 8** Questioning and examination of patients with pathology of the urinary system. Laboratory-instrumental and radiological methods of research. Final lesson on laboratory and instrumental methods of research.

**Forms of ongoing monitoring of academic performance**

- written survey;

-oral interview;

-the decision problem and situational tasks;

-practical skills development;

-abstract;

-testing.

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

Option 1

1. Describe the value of the Zimnitsky sample.

2. List the complaints of the kidney patient.

Option 2

1. List the contraindications for the concentration test.

2. Examination data of the renal patient

**Questions for the oral survey:**

1. Complaints of patients with pathology of the urinary system.

2. Data of general and private examination in this pathology.

3. Functional methods of research (Zimnitsky test, for dilution and concentration, Rehberg).

4. Laboratory methods of research (general analysis of urine, sample according to Nechiporenko, Addis-Kakovsky).

5. General ideas about X-ray and ultrasound studies.

**Solving situational problems:**

**Task 1**

All patients with a general clinical examination are required to conduct a urine test. Here is the most common version of a urine test. Rate it. Match your data with the discussion. Study of patient A who was admitted to the clinic with pain in the lumbar region

|  |  |
| --- | --- |
| delivered quantity | 70,0 (ml) |
| Color | straw-yellow |
| Reaction | acid |
| Specific gravity | 1020 |
| Transparency | full |
| Protein | no |
| leukocyte | 2-3 in the field of view |
| epithelial cells | 1 - 2 plane cells in field of view |

**Task №2**

Patients B and C went to a doctor due to the fact that they noticed unusual bloody-colored urine.

**The results of urinalysis**

|  |  |  |
| --- | --- | --- |
| Characteristics of urine | Patient B | Patient C |
| delivered quantity | 180,0 ml | 60,0 ml |
| Color | bloody | color of meat slops |
| Reaction | acid | acid |
| Specific gravity | 1017 | 1024 |
| Transparency | nebulous | little nebulous |
| Protein | 0,33 %о | 1,84 %о |
| Microscopy of precipitate  epithelial cells | plane, 10 - 11 in the field of view | renal, 1 - 2 in the field of view |
| leukocytes | no | 2-3 in the field of view |
| erythrocytes | fresh, 15 - 20 in the field of view | alkaline, 30-60 in the field of view |
| hyaline cylinders | no | 1-2 in the field of view |
| Salts | oxalates in large quantities | no |

What diseases can you think of from these tests? What are the signs that indicate this?

**Task # 3**

The clinic was contacted by patient G, who for many years has suffered from bronchiectatic disease with frequent exacerbations, the release of a large amount of purulent sputum. Results of a urine test

|  |  |
| --- | --- |
| delivered quantity | 120,0 |
| Color | straw-yellow |
| Reaction | acid |
| Specific gravity | 1028 |
| Transparency | transparent |
| Protein | 16,30 %о |
| leukocytes | 2-3 in the field of view |
| cylinders | waxy, 0-1-2 in the field of view  hyaline 4-5-6 in the field of view  grainy, 2-3 in the field of view |
| Renal cell | 2-3-4 in the field of view |

What caused the changes in the urine? What is the nature of renal damage in this case?

Task № 4

Patient D has been suffering from nagging pain for a long time after childbirth. Therefore urine was analyzed.

**Результаты исследование мочи**

**The results of urinalysis**

|  |  |
| --- | --- |
| delivered quantity | 40,0 ml |
| Color | straw-yellow |
| Reaction | alkaline |
| Specific gravity | 1008 |
| Transparency | nebulous |
| Protein | 0,33%о |
| precipitate | little, loose |
| epithelial cells | 1 - 2 plane cells in field of view |
| leukocytes | 2-3 in the field of view |
| erythrocytes | alkaline, 2-5 in the field of view |
| cylinders | hyaline, 0-1-2 in the field of view |

What disease can you think about in this case?

**Task № 5**

Patient E had cramps during urination after overcooling, what forced her to consult a doctor.

**The results of urinalysis**

|  |  |
| --- | --- |
| delivered quantity | 40,0 ml |
| Color | straw-yellow |
| Reaction | alkaline |
| Specific gravity | 1028 |
| Transparency | nebulous |
| Protein | 1,5 %о |
| Precipitate | purulent, viscous |
| Epithelial cells | cells of the bladder with steatosis, 10 in the field of view |
| leukocytes | cover the entire field of view |
| erythrocytes | fresh, 15-20 in the field of view |
| Salts | amorphous phosphates, tripelphosphates |
| Bacteria | significant amount |

What disease can be assumed in this case?

**Standards of responses to situational tasks**

Task # 1

The presented analysis is normal, since the urine has a straw-yellow color, an acidic reaction, and complete transparency. In the urine, there is no protein and other pathological components (sugar, bile pigments, acetone bodies, and others). Microscopic examination revealed single white blood cells and squamous epithelial cells that enter the urine from the external genitalia.

Pain in the lumbar region in patient A cannot be associated with kidney disease.

Task # 2

In patients B and C, first of all, the bloody color of the urine should be noted. The urine is acidic, cloudy, with a normal specific gravity. There is also protein in the urine, but in the first case (patient B) it is very small, and in the second (patient C) it reaches 1.84 %. There are differences in the nature of the epithelium. In the first case, it is flat, that is, it enters the urine from the urethra and from the external genitals. In the second case-renal, indicating kidney damage. In the urine, red blood cells were found, which in the case of B are fresh (extrarenal), from the urinary tract. In the case of B-leached, that is, passed through the wall of the capillaries of the renal glomeruli. The presence of large amounts of salts (oxalates) in the urine indicates the possibility of the presence of stones. Hyaline cylinders, identified in patient B, are protein formations of tubular origin and are found in kidney diseases. Thus, patient B has a urinary tract lesion associated with urolithiasis. In a patient with B -, it is necessary to think about the defeat of the renal parenchyma. The presence of a large amount of protein, altered red blood cells, with a normal specific gravity-is characteristic of acute glomerulonephritis without impaired renal function.

Task # 3

Draws attention to the presence of a large amount of protein and cylinders in the urine. It is known that the cylinders are protein and cellular formations of tubular origin. They are found in dystrophic processes in the tubules. Granular cylinders are formed from decayed cells of the renal epithelium. Waxy cylinders are characteristic of chronic kidney diseases.

The cause of such dystrophic changes is a chronic suppurative process, in particular, in the lungs. Amyloidosis develops in parenchymal organs, including the kidneys (amyloid is a protein-carbohydrate complex deposited in the intercellular substance of the organ parenchyma).

Task # 4

A number of pathological signs were found in the urine: the reaction of urine to alkaline was changed, its turbidity was noted, its specific gravity was reduced, and protein in the amount of 0.33% o was detected. Microscopic examination revealed leached red blood cells, single hyaline cylinders, which are protein formations of tubular origin. A low specific gravity of urine indicates a decrease in the concentration function of the kidneys. Protein and leached red blood cells appear with increased vascular permeability of the glomeruli of the kidneys. The combination of such changes is characteristic of chronic kidney damage, with the involvement of the glomeruli (chronic glomerulonephritis).

Task # 5

The patient has clearly abnormal urine. It is cloudy, with an alkaline reaction, although the specific gravity of urine is not reduced. Microscopy of the sediment of the bladder cells, the mass of white blood cells, bacteria, which indicates an inflammatory process in the bladder. In addition, fresh red blood cells and salts were found, which indicates the presence of stones and possible traumatization of the mucous membrane. The protein in this case has an extrarenal origin (due to the shaped elements-pus). Thus, the existing suppurative changes in the urine of patient E, give grounds to diagnose urolithiasis with the phenomena of cystitis.

Practical training on a clinical basis

The scheme of supervision of a patient on a medical ward

When making a fragment of the medical history, students must adhere to the recommended scheme of patient supervision in the therapeutic department. The medical history should be made clear and consistent, written in the form of a statement. It is necessary to conduct a complete examination of the patient's system by physical methods of research, using for this purpose, in the study of each organ system, in strict sequence, examination, palpation, percussion and auscultation. The text of the medical history should be written in a neat, clear and legible handwriting, without abbreviating words. The following requirements must be met:

\* Accuracy and consistency of presentation;

\* Comprehensive completeness of the necessary information;

\* Clarity of presentation;

• All subheadings of the medical history sections should be highlighted;

• There must be wide margins for the teacher's comments.

Sample

Title page

FSBEI of HE

"OSMA" Health Ministry of Russia

Department of Propaedeutics of Internal Diseases

Head of the Department Professor,

Doctor of Medical Sciences K. M. Ivanov

Teacher\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fragment of writing a medical history

Completed by the student\_\_\_\_\_\_\_\_of the group

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(last name, first name, patronymic of the student)

Orenburg, 2020

Name of the medical institution:

Non-governmental health care institution "Department clinical hospital of JSC" Russian Railways " on the station Orenburg

Date of admission of the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Last name, first name, patronymic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Age\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Gender\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Nationality \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Education \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Profession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Current position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Home address of the patient and close relatives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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9. Who referred the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. The diagnosis that was sent to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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11. Preliminary diagnosis upon admission to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. The final clinical diagnosis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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THE PATIENT'S COMPLAINTS

List the complaints that the patient himself notes at the time of questioning or noted at the time of admission to the clinic. First, you need to identify the main (leading) complaints, then the general ones. On the basis of the submitted complaints, make an assumption about the defeat of which system is in question (the respiratory system, blood circulation, etc.). Clarify whether there are any other complaints that characterize the pathology of this system, but which the patient did not mention.

It is necessary to specify the complaints.

Complaints of respiratory system damage: nasal breathing: difficulty, complete inability to breathe through the nose, feeling dry, runny nose-nasal discharge (quantity, nature, smell). Feeling of dryness and pain in the throat when speaking, swallowing; voice disturbance (hoarse, lack of voice). Chest pain: its location, the nature of the pain (acute, dull, stabbing, aching, shooting), intensity, duration, the effect on them of movement, body position, breathing and coughing, their irradiation. Shortness of breath: continuous or periodic, the appearance or increased shortness of breath when walking fast when climbing the stairs, the strength and duration of dyspnea, the appearance or strengthening it in horizontal or vertical position, the nature of dyspnea (expiratory, inspiratory, combined). Suffocation: time of appearance, strength, duration. Cough and its features: persistent or intermittent, dry or with sputum (wet). Sputum leaves freely or with difficulty, evenly or after particularly strong attacks; the time of departure (morning, afternoon, evening), the amount (per day and at a time), the smell and color of it, the allocation, depending on the position of the patient. Hemoptysis: time of occurrence, intensity, pure blood or mixed with sputum, amount of blood, character (liquid or clots), color (scarlet, black, yellow).

Complaints of damage to the circulatory system: pain in the heart or behind the sternum: nature (stabbing, squeezing, pressing); strength; duration (constant or paroxysmal); radiation; conditions under which pain occurs; behavior of the patient during pain; from what measures the pain calms down. Heartbeat: constant or intermittent; intensity;" interruptions " in the work of the heart; duration; connection with physical tension, movements, agitation, at rest, after eating, in a horizontal position, when the external temperature changes. Shortness of breath: (see above). Edema: their localization, features of appearance (in the morning, in the evening), permanent or disappearing, the intensity of their appearance, the connection with physical stress, fluid intake, heaviness in the right hypochondrium.

Complaints about the defeat of the digestive system: appetite: good, satisfactory, lack of appetite, greed for food, perversion of appetite. Aversion to food, especially meat, or fast satiety.

Taste: unpleasant taste in the mouth, bitter taste, sweet, lack or perversion of taste.

Dry mouth: when agitated, thirsty, feverish.

Swallowing: painful, free, impossible, difficult, difficulty swallowing dry or liquid food.

Belching: empty, by air, bitter, sour, rotten, by food; time of its appearance, intensity, duration.

Heartburn: frequency of occurrence, intensity, duration. Does it depend on the intake and type of food?

Nausea: the frequency of occurrence, duration, depends on the type of food, on an empty stomach, with dizziness, when changing the position of the body, balance disorders.

Vomiting: time of occurrence (on an empty stomach, after eating); duration, whether it depends on the type of food, medication. The amount of gastric contents removed by vomiting. The taste of vomit: without taste, sour, bitter. The nature of vomiting: indigestibility, pieces of food eaten long before vomiting, foamy vomit, their yellowish-green color from the admixture of blood to the vomit, in what quantity and form (unchanged or altered blood), vomiting with pure blood, in the form of coffee grounds, vomiting yellow or dark brown with a fecal odor. Relief after vomiting.

Unpleasant sensations in the epigastric region: their appearance from any food or depending on the type of food, the quality or quantity of food.

Pain in the epigastric region: localization and nature of pain, intensity.

Radiating pain: drilling pain in the epigastric region, radiating to the spine, radiating to the right shoulder blade, to the right shoulder. The conditions under which pain occurs: the relationship with the nature, quantity and quality of the food taken. Pain in the epigastric region, depending on the food, regardless of the food. How long after a meal there is pain (pain on an empty stomach or "hunger pains", night pains).

Duration of pain: whether the pain goes away after eating food or liquid, taking soda, after vomiting or gas discharge. The effect of changes in body position and movement on the strengthening, weakening and cessation of pain.

The frequency of pain: the duration of light intervals, the time of year (autumn, winter, spring, summer).

What is accompanied by pain: nausea, vomiting, fever, headaches, delayed stools or liquid stools, gas retention, the appearance of tar-like stools.

Abnormal feeling in the abdomen: bloating, feeling of transfusion, rumbling. The pain is sharp, cutting, dull, aching, constant, cramping.

Stool: the number of bowel movements, if the stool is not daily, then after how many days. The action of the intestine is independent, with an enema or laxatives. Feeling of incomplete emptying. Diarrhea with an indication of the frequency of bowel movements. Change of diarrhea by constipation. Involuntary bowel movement. Pain during the act of defecation. Tenesmus. Itching in the rectum. Rectal prolapse.

Stool: decorated, mushy, liquid, solid, nuts - "sheep" feces, color. An admixture of blood and mucus.

Discharge of gases: free, moderate, plentiful, odorless, with a sharp smell.

Complaints when the urinary system is affected: pain in the lumbar region: right, left, constant or intermittent: the nature of the pain-dull, pulling, aching, cramping; under what conditions the pain appears-prolonged walking, jumping, shaking riding, cooling, excitement. What makes them stronger? Radiation of pain - in the course of the ureters, to the bladder, in the urethra.

Urination: voluntary, free, difficult, painful, rapid. Increased frequency during the day or at night. Pain when urinating in the bladder; pain, pain, burning in the urethra. Pain at the beginning, during, and at the end of urination. Change in the flow of urine (intermittent, drop-by-drop, weak). Urinary incontinence. The daily amount of urine.

Urine: color, transparency, sediment, admixture: pus, mucus, blood. Hematuria (at the beginning, during urination, at the end).

General: impaired vision, palpitations, shortness of breath, swelling of the eyelids, face.

HISTORY OF THE PRESENT DISEASE

The section should reflect the time of occurrence of the disease and the dynamics of development before the start of curation. It is especially important to identify the symptoms, which, to some extent, allows you to decide whether the disease is acute or chronic. Through appropriate questions, it is necessary to find out: the beginning of the disease (when and how it began-suddenly or gradually), what were its manifestations, its further course (progressive or intermittent, for chronic diseases, the duration of periods of exacerbations, relapses, remissions).

It is necessary to establish the causes and reasons for the present deterioration of the disease (severe nervous tension, injuries, physical overload, eating errors, colds, and others).

Did you see a doctor, was treated and with what result, what additional tests were carried out (blood, urine, ECG, X-ray, etc.)? What were the diagnoses of the attending doctors?

Characteristics of the period preceding the present request for medical care (deterioration of the disease, the appearance of new symptoms, etc.). By

whom is the patient referred to the hospital? The nature of hospitalization (emergency, planned).

Work-expert history: whether and when the certificate of disability was issued at the time of admission to the hospital, how many days of disability.

HISTORY OF THE PATIENT'S LIFE

The question about the patient's life should begin with general biographical information: time and place of birth (geographical area), place of residence, if he changed them during his life.

Social history: the family environment in which he was born; the age of the parents, the previous illnesses. School years: when did you start studying, how did you study (how easy or difficult was it to learn), how long did you study? Did you do physical education and sports at school? General and special education of the patient. For men, service in the army.

Professional history: the beginning and nature of the work of a lifetime, professional harms in the past. Current working conditions (duration, mental or physical, night or day work). Characteristics of the working room (lighting, temperature, drafts, dust, presence of harmful substances). Use of days off, holidays. Living conditions.

Past illnesses, operations, injuries: their duration and severity, complications, ongoing treatment (in hospital, at home, outpatient, sanatorium-resort). Pay attention to venereal diseases, tuberculosis, viral hepatitis, HIV infection.

Family history: married, married, since when. For women, the beginning of menstruation, the nature and cycle of them. Pregnancies and births, stillbirths, abortions, their number, the cause of complications. Are there any living children, how many?

Heredity: it is necessary to find out the state of health of close relatives: father, mother, grandparents, sisters and brothers of the patient, children and grandchildren, sisters and brothers of the father and mother (if they died, at what age and from what causes).

Pay attention to diseases that especially affect the offspring: syphilis, tuberculosis, neuropsychiatric diseases, metabolic diseases, blood diseases, alcoholism, neoplasms.

Epidemiological history: find out whether there was contact with infectious patients (in the family, school, among neighbors, colleagues, etc.). Did you come in contact with sick animals? Ask where the patient eats (in the dining room, buffet, at home, what kind of water he uses (raw, boiled, from the water supply or from other sources). Whether he went to other cities or districts. Did any sick people come to the family from other places of residence?

Have you noticed any recent fever, vomiting, or stool disorders?

Allergic history: drug intolerance: the presence of itching, various rashes, swelling of the face after taking antibiotics and other medicinal products, food intolerance, seasonal appearance of a runny nose and lacrimation during the flowering of wormwood, ragweed, poplar.

Unhygienic bad habits: smoking (from what age he smokes and how many cigarettes a day), the use of alcoholic beverages and drugs (frequency, quantity, how he tolerates them).

Blood transfusion history: whether blood and blood substitutes were transfused, for what reason, how many times and in what quantity, whether there were complications on transfusions and how they were manifested. Whether the patient is a donor?

CURRENT STATUS

General condition: satisfactory, moderate, severe, very severe, agonal.

Consciousness: clear, stuporous (numbness), soporose (torpor), comatose.

The patient's position: active, passive, forced.

Body type: (constitution); asthenic, normosthenic, hypersthenic. Height. Weight (body weight). Body mass index (BMI = weight kg / height m2). Posture. Gait.

Body temperature: normal, low-grade, high.

The respiratory system

Chest unchanged: normosthenic (conical), hypersthenic, asthenic.

The chest is pathological: emphysematous (barrel-shaped), paralytic, rickety (keeled, chicken), funnel-shaped, navicular.

Chest deformity in spinal curvature: scoliotic, kyphotic, lordotic, kyphoscoliotic.

Asymmetry of the chest.

Type of breathing: chest, abdominal or mixed. Respiratory rate (number of respiratory movements per minute). The depth of breathing is deep, shallow.

Breathing rhythm: rhythmic, change in rhythm with deep breathing (Kussmaul's breathing), with lengthening of the inhale (inspiratory shortness of breath), with lengthening of the exhalation (expiratory shortness of breath).

Periodic respiration: Biota, Cheyne-Stokes, Grokka.

Description of the results of chest palpation: corresponds to gender and age, painless, local or diffuse soreness. Soreness at the Georgievsky-Musset point (when pressing between the legs of the sternocleidomastoid muscle at the site of the projection of the diaphragmatic nerve). Soreness in the intercostal spaces. Pain when pressing on the ribs. Increase or decrease in pain when the patient is tilted to the healthy side. Elasticity (elastic, rigid). Changes in the voice tremor (gain, decrease, symmetry). The noise of pleural friction or the sound of fluid splashing in the pleural cavity.

Description of the results of lung percussion.

Topographic percussion in the patient's standing and sitting position.

|  |  |  |
| --- | --- | --- |
| Identification lines | Right lung,  intercostal space | left lung,  intercostal space |
| Parasternal  Midclavicular  Anterior axillary  Middle axillary  Posterior axillary  Spatula  Paravertebral |  |  |

Is there a shift of the lower pulmonary margin downwards or upwards, a mixture of the anterior (inner) edges of the lungs inwards and outwards? Specify the height of standing of the tops of the lungs in front and behind, the width of the Krenig margins. Is there a decrease in the standing height of the tops of the lungs and a narrowing of the Krenig fields?

Indicate the active mobility of the lungs along the midclavicular line, the middle axillary and scapular lines, the possible restriction or complete absence of active mobility in the patient.

Comparative (high-quality) percussion. The presence in the lungs of a clear pulmonary sound, dull, blunted, tympanic (box) or metallic sounds, their localization.

Description of the results of lung auscultation. Specify the type of breathing: vesicular (alveolar) breathing, vesicular breathing with prolonged exhalation, hard breathing, bronchial breathing (amphoric, metallic), bronchial-vesicular breathing.

Indicate whether the wheezes are heard and what: dry wheezes — low-pitched (buzzing), high-pitched (whistling); wet wheezes — sonorous, non-sonorous, large -, medium -, small-bubbled; crepitation initial, final; pleural friction noise. Is there any bronchophonia?

The system of the circulatory system

Describe whether there is a heart hump, a general bulge of the heart area, an apical push, a negative apical push, a cardiac push?

Describe the pulsation of the subclavian, brachial, radial, and other arteries; capillary pulse.

Describe if there is an expansion of the veins of the head, neck, upper and lower extremities, anterior surface of the trunk; pulsation of the jugular veins (positive and negative venous pulse).

Describe the pulse: frequency, rhythm, tension, filling, size, shape.

Description of the results of palpation of the heart and blood vessels. When describing the apical push, specify: localization, area, force, displacement of the apical push, associated and unrelated to the change in body position, the presence of" cat purring " in the area of the apex of the heart, at the base of the heart.

Description of the results of percussion of the heart and large vessels. The boundaries of the relative dullness of the heart: the

right border - in the II, III, IV intercostal space;

the left border is in the II, III, IV and V intercostal spaces.

Specify the size of the diameter of the heart.

To describe the bounds of absolute stupidity of the heart:

right border in the fourth intercostal space, left border – in the V intercostal space, the upper limit - level IV of the ribs above, below.

Specify the width of the vascular bundle in the II intercostal space.

Describe the results of auscultation of the heart and large vessels. Specify which heart tones: rhythmic, arrhythmic, clear, loud,muted, muffled, heart rate. Attenuation or amplification of both tones. Attenuation of the first tone, attenuation of the second tone. Changing the timbre of the heart tones: flapping, first tone, metallic tone tone, dull first top," velvet " tone, rattling first tone. Split tones. Additional notes: the third and the fourth tone. Gallop rhythm (protodiastolic, mesocestoides or presystolic gallop). The rhythm of the quail. Describe whether there are noises during auscultation of the heart? Systolic murmur. Diastolic murmur (protodiastolic, mesocestoides, presystolic). The point of maximum noise volume. Locations of heart murmurs. Timbre color (soft or blowing, rough or scratching, sawing). Blood pressure (BP) in mmHg, (according to the patient). Auscultation of the carotid and subclavian arteries — first and second tone. The femoral artery is the first tone. Double Traube tone and double Vinogradov-Durosier noise on the femoral artery, on the brachial and radial arteries. The noise of the gyroscope on the right jugular vein when turning the head to the left.

The system of digestive organs

Describe the condition of the oral mucosa - the presence of ulcers, pigmentation, hemorrhages, spots. Changes in the gums (looseness of the gums, their bleeding), the condition of the teeth.

To characterize the tongue: the increase in the size of the tongue, the color of the tongue, the coating, the condition of the papillae, the presence of ulcers (the tongue is clean and moist, gray-white, crimson, bad-smelling, dry, atrophic).

Bad breath (putrid, acetone, uremic, hepatic). Phenomena of angular stomatitis - inflammation of the mucous membrane and skin in the corners of the mouth. Cracked lips (zaeda).

Description of the abdomen. Features of the skin of the abdomen and the degree of development of subcutaneous fat. An increase in the size of the abdomen due to obesity, ascites, flatulence, the presence of a tumor, an increase in the liver, spleen, and lymph nodes. The unevenness of the increase in different parts of abdomen. The presence of hernial protrusion: umbilical hernia, expansion of the umbilical ring, postoperative ventral hernia, hernia of the white line of the abdomen.

Expansion of the venous network in the anterior abdominal wall ("medusa's head").

Description of the results palpation of the abdominal wall and abdominal organs. Surface, approximate palpation of the anterior abdominal wall-to determine the general and local soreness, the degree of muscle tension (defans), enlarged organs (liver, spleen), the presence of a hernia.

Using deep, sliding, topographic and methodical palpation according to Obraztsov-Strazhesco, give a description of the palpable areas (list sigmoid, blind, transverse colon, etc.): soft, painless.

In the presence of pathology, describe: what part of the intestine is dense, painful, motionless, non-rumbling, lumpy, strongly peristaltic, accumulation of liquid contents and gas.

Stomach-the possibility of palpatory determination of large and small curvature.

Pancreas - normally, palpation is not determined, but with superficial and deep palpation, there may be painlessness in the right and middle parts of the epigastrium, muscle tension.

Liver-features of the lower edge, shape (smooth, uneven), consistency (dense, soft), shape (pointed, rounded), soreness. Localization of the lower edge of the liver in relation to the costal arch. The surface of the liver is smooth, uneven, large-or small-nodular.

Description of the results of percussion of the abdominal organs

Specify the large, medium and small sizes of hepatic dullness according to Kurlov in centimeters.

The system of urinary organs

Describe the presence of edema and its nature: local (localization) or general edema, soft or dense, changes in the skin above the area of edema.

Indicate whether there is swelling of the lumbar region (paranephritis), swelling of the abdominal wall (kidney tumor), swelling in the bladder (overflow).

Description of the results of palpation of the kidneys and bladder: the possibility of palpatory determination of the kidneys in the standing and lying position; the possibility of palpation of the bladder over the pubis, depending on the accumulation of urine in it. Determination of pain when pressing on the lower back in the area of the projection of the kidneys and palpation along the ureter.

Description of the results of percussion of the kidneys and bladder: Pasternatsky's symptom (negative, positive). Definition of percussion sound above the pubic area (filled or empty the bladder).

**List of abstract topics:**

1. Ultrasound examination of the kidneys and bladder.

2. Urography.

3. Cystography.

4. Nephroscintigraphy.

5. Cystoscopy.

6. Neuroangiography.

7. Computed tomography of the MVS.

8. Kidney biopsy.

9. Static scintigraphy.

**Test task for knowledge control in module 2**

Option 1

1. NORMALLY, AN AVERAGE OF URINE IS RELEASED PER DAY:

a) 1000 ml;

b) 700 ml;

c) 1500 ml;

d) 3000 ml;

e) 5000 ml.

2. THE INTERVAL R-R OF THE ELECTROCARDIOGRAM CORRESPONDS IN TIME TO:

a) atrial systole;

b) ventricular systole;

c) diastole of the heart;

d) one complete cardiac cycle.

3. THE RATE OF BILIRUBIN (IN MMOL/L) IN THE BLOOD SERUM:

a) 8.5-30.5;

b) 3.3-5.5; c

) 8.5-20.5;

d) 0-18.

4. THE STATE OF THE ATRIA CHARACTERIZES THE TOOTH:

a) P;

b) T; c

) S;

d) Q.

5. THE BREAKDOWN ACCORDING TO NECHIPORENKO IS DETERMINED:

a) excretory function of the kidneys;

b) urinary function;

c) filter function;

d) the concentration function.

6. THE EXCRETION OF PROTEIN IN THE URINE IS CALLED:

a) glucosuria;

b) urobilinuria;

c) proteinuria;

d) hematuria.

7. THE SPECIFIC GRAVITY OF URINE IN A HEALTHY PERSON IS IN THE RANGE:

a) 1007-1014;

b) 1020-1025; c

c) 1015-1020;

d) 1005-1025;

e) 1020-1030.

8. TO DETERMINE THE SHAPED ELEMENTS, THE FOLLOWING IS PERFORMED:

a) clinical analysis of urine;

b) the sample in General;

c) the sample according to Nechyporenko;

d) bacteriological examination of urine.

9. LAYERED X-RAY EXAMINATION OF THE LUNGS:

a) bronchography;

b) spirography;

c) tomography;

d) chest x-rays.

10. THE STATE OF THE VALVULAR APPARATUS OF THE HEART BETTER REFLECTS:

a) laboratory diagnostics;

b) x-ray examination;

c) ultrasound examination;

d) electrocardiography.

11. THE PORTION " B " OF BILE HAS A COLOR:

a) white;

b) olive oil;

c) light yellow;

d) dark yellow.

12. THE RELATIVE DENSITY OF URINE IN THE GENERAL ANALYSIS IS:

a) 1018-1025;

b) 1007-1010;

c) 1012-1015;

d) 1030-1040.

13. THE NUMBER OF RED BLOOD CELLS IN THE GENERAL ANALYSIS OF URINE (IN THE FIELD OF VIEW):

a) 0;

b) 3;

c) 6;

d) 9.

14. WITH THE SYNDROME OF RENAL FAILURE IN THE BLOOD, THERE IS:

a) an increase in creatinine and urea;

b) increase in creatinine;

c) increased urea;

d) decrease in creatinine and urea.

15. THE DAILY DIURESIS IS 300 ML — THIS IS:

a) anuria;

b) nicturia;

c) oliguria;

d) polyuria.

16. THE NUMBER OF RED BLOOD CELLS IN NORMAL MEN (IN 1 LITER):

a) 4.5-5.0 x 1012;

b) 4.5-5.0 x 109;

c) 6-8x109;

d) 6-8 x 109.

17. THE COLOR INDICATOR REFLECTS:

a) the amount of hemoglobin;

b) the number of red blood cells;

c) the degree of saturation of red blood cells with hemoglobin;

d) the degree of saturation of white blood cells with hemoglobin.

18. THE NUMBER OF WHITE BLOOD CELLS IN THE NORM (IN 1 L):

a) 4-9x109;

6) 4-9x1012;

c) 1-2 x 1012

d) 9-12x109.

19. THE CONTENT OF SEGMENTED NEUTROPHILS IN THE LEUKOGRAM IS NORMAL (IN %):

a) 20-40;

6) 47-72;

c) 6-8;

d) 0-1.

20. THE APPEARANCE OF GLUCOSE IN THE URINE IS CALLED:

a) hyperglucosuria;

b) glucosuria;

c) hyperglycemia;

d) hyperproteinemia.

Option 2

1. X-RAY EXAMINATION OF THE KIDNEYS IS CALLED:

a) cholecystography;

b) pyelography;

c) cholangiography;

d) barium enema.

2. INSTRUMENTAL RESEARCH METHODS USED IN CARDIOLOGY:

a) echocardiography;

b) bicycle ergometry;

c) radiography of the thoracic cavity;

d) all answers are correct.

3. IN CASE OF PATHOLOGY IN THE GALLBLADDER, THE PORTION CHANGES:

a) A;

b) B;

c) c;

d) all of the portions.

4. THE CONCENTRATION FUNCTION OF THE KIDNEYS IS DETERMINED BY A BREAKDOWN:

a) according to Zimnitsky;

b) Addis-Kakovsky;

c) Nechiporenko;

d) daily proteinuria.

5. THE STATE OF THE VENTRICLES IS CHARACTERIZED BY:

a) the wave P;

b) the PQ interval;

c) the QRS complex;

d) the RR interval.

6. THE EXCRETION OF WHITE BLOOD CELLS IN THE URINE IS CALLED:

a) bacteriuria;

b) hematuria;

c) the cylinder.;

d) albuminuria;

e) leukocyturia.

7. THE PATIENT EXCRETED URINE IS THE COLOR OF "MEAT SLOPS". NAME THIS SYMPTOM:

a) microhematuria;

b) leukocyturia;

c) bacteriuria;

d) proteinuria;

d) gross hematuria.

8. HIDDEN EDEMA CAN BE DETERMINED BY:

a) the Addis—Kakovsky breakdown;

b) according to Nechiporenko;

c) weighing the patient, measuring the amount of fluid consumed and excreted, and analyzing urine according to Zimnitsky

d) cystoscopy and pyelography;

e) weighing the patient, measuring the amount of fluid consumed and excreted, and the McClure—Aldrich blister test,

9. SOUND PHENOMENA THAT OCCUR DURING THE WORK OF THE HEART, REGISTERS:

a) bicycle ergometry;

b) phonocardiography;

c) electrocardiography;

d) echocardiography.

10. THE ACID-FORMING FUNCTION OF THE STOMACH IS INVESTIGATED:

a) by duodenal probing;

b) fractional gastric probing;

c) endoscopic examination;

d) x-ray examination.

11. NORMAL RATIO OF DAY AND NIGHT DIURESIS:

a) 3:1;

b) 2:1;

c) 1: 1;

d) 1:2.

12. THE NUMBER OF RED BLOOD CELLS IN THE URINE ANALYSIS ACCORDING TO NECHIPORENKO (IN 1 ML) UP TO:

a) 1 x 103;

b) 3 x 103;

c) 5 x 103;

d) 7 x 103.

13. THE FUNCTIONAL ABILITY OF THE KIDNEYS REFLECTS:

a) the general analysis of urine;

b) the Nechiporenko test;

c) test of General;

d) the Addis—Kakovsky sample.

14. THE DAILY DIURESIS IS 3 LITERS — THIS IS:

a) anuria;

b) nicturia;

c) oliguria;

d) polyuria.

15. THE DAILY DIURESIS IS 40 ML — THIS IS:

a) anuria;

b) nicturia;

c) oliguria;

d) polyuria.

16. THE AMOUNT OF HEMOGLOBIN IN NORMAL WOMEN IS (G / L):

a) 12-16;

6) 80-100;

c) 120-140;

d) 180-200.

17. NORMAL ESR VALUE IN MEN (MM / H):

a) 1-2;

6) 2-10;

c) 20-40;

d) 40-50.

18. THE NUMBER OF PLATELETS IN THE NORM (IN 1 L):

a) 60-80 x 109;

b) 60-80 x 1012

c) 180-320 x 109;

d) 180-320 x 1012

19. TO CONFIRM THE PATHOLOGY OF THE PITUITARY GLAND, YOU SHOULD PERFORM:

a) anthropometry;

6) general blood test;

c) general urinalysis;

d) radiography of the skull bones.

20. THE FASTING BLOOD GLUCOSE LEVEL IS NORMAL (MMOL/L)

a) 1.1-2.2;

b) 3.3-5.5;

c) 6.6-8.8;

d) 8.8-9.9.

**The standard answers**

**Option I**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | c | 11. | b |
| 2. | d | 12. | а |
| 3. | c | 13. | а |
| 4. | а | 14. | а |
| 5. | а | 15. | c |
| 6. | c | 16. | а |
| 7. | d | 17. | c |
| 8. | c | 18. | а |
| 9. | c | 19. | b |
| 10. | c | 20. | b |

**Option II**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | b | 11. | а |
| 2. | d | 12. | а |
| 3. | b | 13. | c |
| 4. | а | 14. | d |
| 5. | c | 15. | а |
| 6. | e | 16. | c |
| 7. | e | 17. | b |
| 8. | e | 18. | c |
| 9. | b | 19. | d |
| 10. | b | 20. | b |

**Module 3 Clinical syndromes in therapeutic practice**

**Topic 1** The main pulmonary syndromes: bronchial patency disorder, compaction of the lung tissue, air cavity in the lung, increased airiness of the lung tissue.

**Forms of current performance monitoring:**

-testing;

-oral survey;

-the solution of the problem-situational tasks;

-the development of practical skills;

-report

**Evaluation materials of the current control of academic performance.**

**Questions for the test control:**

**Option 1**

1. The main complaint of a patient with bronchial asthma

a) chest pain

b) cough with purulent sputum

c) choking attack

d) hemoptysis

2. The expiratory nature of dyspnea is noted in

a) lung abscess

b) bronchial asthma

c) croup pneumonia

d) pulmonary edema

3. With expiratory dyspnea, it is difficult

a) inhale

b) exhale

c) inhale and exhale

4. Forced position of the patient during an attack of bronchial asthma

a) horizontal

b) horizontal with raised legs

c) lying on the side

d) sitting, leaning on your knees

5. Auscultative data for an attack of bronchial asthma

a) crepitation

b) dry wheezing

c) wet wheezing

d) pleural friction noise

6 The most informative method for diagnosing pneumonia

a) sputum analysis

b) blood test

c) chest x-ray

d) pleural puncture

7. Complication of focal pneumonia

a) lung abscess

b) bronchitis

c) tuberculosis

d) lung cancer

8. Sputum for bacteriological examination is collected in

a) dry test tube

b) a dry jar

c) a sterile test tube

d) a sterile jar

9. Complication of croup pneumonia

a) bronchial asthma

b) bronchitis

c) pleural effusion

d) lung cancer

10. Hemoptysis is observed in

a) acute bronchitis

b) bronchiectatic disease c

) bronchial asthma

d) exudative pleurisy

11. Lung abscess can be complicated by

a) acute bronchitis

b) bronchial asthma

c) focal pneumonia

d) dry pleurisy

12. The appearance of copious purulent sputum on the background of hectic fever is observed in

a) lung abscess

b) croup pneumonia

c) bronchial asthma

d) lung cancer

13. The shape of the chest in emphysema

a) asthenic

b) hypersthenic

c) normosthenic

d) barrel-shaped

14. Percussion sound in emphysema of the lungs

a) box sound

b) tympanic

c) blunt

d) clear

**Option 2**

1. Curschmann spirals and Charcot-Leyden crystals in sputum are detected in

a) lung abscess

b) bronchial asthma

c) lung cancer

d) tuberculosis

2. Peak flowmetry is the determination of

a) residual volume

b) respiratory volume

c) vital capacity of the lungs

d) peak expiratory velocity

3. The main causative agent of croup pneumonia

a) Gonococcus

b) pneumococcus

c) streptococcus

d) Staphylococcus aureus

4. Crepitation is heard in

a) bronchitis

b) bronchial asthma

c) croup pneumonia

d) dry pleurisy

5. The "rusty" character of sputum is observed in

a) acute bronchitis

b) croup pneumonia

c) bronchial asthma

d) exudative pleurisy

6. The patient excretes sputum in the morning with a full mouth in

a) bronchial asthma

b) bronchiectatic disease

c) croup pneumonia

d) exudative pleurisy

7. In bronchiectatic disease, sputum

a) "rusty"

b) vitreous

c) purulent

d) pink

8. The most informative method of diagnosis of bronchiectatic disease

a) bronchography

b) chest x-ray examination

c) spirography

d) chest x-rays

9. Above the large free cavity of the lung abscess, breathing is determined

a) amphoric

b) bronchial

c) vesicular

d) rigid

10. The lower border of the lungs in emphysema

a) shifted up

b) shifted down

c) not changed

11. Radiological sign of emphysema

a) a cavity with a horizontal liquid level

b) homogeneous shading with an oblique upper border c

) focal shading

d) increased transparency of the pulmonary fields

12. A lung abscess is characterized by fever

a) undulating

b) hectic

c) perverted

d) constant

13. Hemoptysis and pulmonary bleeding may occur in

a) lung abscess

b) bronchial asthma

c) acute bronchitis

d) exudative pleurisy

14. Purulent sputum is observed in

a) lung abscess

b) bronchial asthma

c) croup pneumonia

d) exudative pleurisy

**The standard answers**

**Option 1**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | c |
| 2 | b |
| 3 | b |
| 4 | d |
| 5 | b |
| 6 | c |
| 7 | a |
| 8 | d |
| 9 | c |
| 10 | b |
| 11 | c |
| 12 | a |
| 13 | b |
| 14 | c |

**Option 2**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | b |
| 2 | d |
| 3 | b |
| 4 | c |
| 5 | b |
| 6 | b |
| 7 | c |
| 8 | а |
| 9 | a |
| 10 | b |
| 11 | d |
| 12 | b |
| 13 | a |
| 14 | a |

**Questions for the oral survey:**

1. Syndrome of violation of bronchial patency (bronchial obstruction, including bronchospasm). Etiology. Pathogenesis. The main complaints.

2. Examination, palpation, percussion, and auscultation data for this syndrome. Instrumental and radiological data.

3. Etiology, pathogenesis of lung tissue compaction syndrome. The main complaints.

4. Physical changes in compaction syndrome. Instrumental and radiological data.

5. Air cavity syndrome in the lung. Etiology. Complaints.

6. Physical data in this syndrome. What is” amphoric " breathing?

7. Etiology, pathogenesis of the syndrome of increased airiness of the lungs. Complaints of patients.

8. Physical examination data, instrumental and radiological data.

Solving situational problems:

Task 1

Patient N. has pronounced dyspnea, stenotic character of breathing

hoarseness of voice, dysphagia, edema of the upper half of the trunk and neck. Radiologically, in patients with M. and N., lung root dilatation and inhomogeneous darkening along the periphery, high standing of the diaphragm, displacement of the mediastinum in the direction of the” sick " lung. On the tomograms signs of obstruction of the bronchus. Tumor cells were found in the sputum. In the blood, neutrophilic leukocytosis, anemia, accelerated ESR.

What is the pulmonary syndrome in patients with H?

Task 2

In the patient D. in the clinic of the disease, two "separate" periods should be distinguished. The first period for 10 to 12 days was characterized by general malaise, weakness, chills, cough with scant sputum, chest pain, shortness of breath. The fever was initially remitting (debilitating), and then hectic (debilitating). The percussive sound is blunted, and then blunt. Vesicular breathing is weakened, sometimes with a bronchial tinge. In the blood, neutrophilic leukocytosis with a shift to the left to myelocytes, ESR of more than 60 mm / hour. Radiological picture of infiltration in the lung tissue. The second clinical period in patient D. began with a sudden copious (”full mouth") discharge of purulent sputum (more than 370 ml). Sputum has an unpleasant smell (fetid), when standing, it is divided into three layers – mucous, serous and purulent. The body temperature after sputum discharge dropped to subfebrile. There is a lag in the affected half of the chest in the act of breathing. Percussion-tympanitis, bronchial, amphoric respiration. Sonorous, moist, large-bubbled wheezes. In the blood, in addition to neutrophilosis and accelerated ESR, there are signs of iron deficiency anemia. Sputum contains a lot of white blood cells and red blood cells, elastic fibers, and abundant coccal flora. Radiologically, the clearances with the liquid level are determined. Despite changes in the patient's body position, the fluid level remains horizontal. What kind of disease it should be assumed?

**Task 3**

Patient V., 43 years old, went to the paramedic with complaints of daily attacks of suffocation, especially difficult to exhale, general weakness, malaise. After the attack, a small amount of viscous vitreous sputum departs. 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 bouts of suffocation. The patient has an allergy to strawberries, penicillin. Objectively: the condition is of moderate severity. The patient is sitting with her hands resting on the edge of the chair. The skin is clean, with a cyanotic tinge. The chest is barrel-shaped, the supra-and subclavian areas are smoothed, the intercostal spaces are expanded, there is a swelling of the cervical veins, the participation of auxiliary muscles, and the retraction of the intercostals. Breathing is loud, with a whistle and noise, 26 times a minute. With percussion, a box sound is noted, the lower border of the lungs along the mid-submuscular 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 breathing with prolonged exhalation, dry whistling wheezes are heard. BDD - 26 v min. Heart tones are rhythmic, clear, 92 v min., blood pressure 110/70 mm Hg. Abdominal pathology was not detected. The peak exhalation rate at peak flowmetry is 70% of the proper one.

1. Formulate and justify the presumed syndrome

2. List the additional studies you need

3. What are the possible complications of this disease

**Task 4**

Patient E., 50 years old, was taken to the FAP with complaints of headache, high fever, sharp stabbing pain in the right half of the chest, increasing when coughing, shortness of breath, cough with rust-colored sputum. The disease began acutely, after hypothermia. Ill 2-day.

Objectively: the temperature is 39.40 C. The general condition is serious. The face is hyperemic, herpetic rashes are detected on the lips. BDD - 28 v min. When viewed the right half of the chest lagging behind in the breath, palpation voice trembling right enhanced with percussion over the right lower lobes is determined by dulling the sound, auscultation over the right lower lobes breathing weakened vesicular determined crepitus. The heart tones are muted. Pulse 110 v min., rhythmic, blood pressure 110/70 mm Hg. Abdominal pathology was not detected.

1. Formulate and justify the syndrome.

2. Name the necessary additional studies.

3. List the possible complications.

**Standards of responses to situational tasks**

Task 1

Patient H has an air cavity syndrome in the lung.

Task 2

Abscess of the lung.

Task 3

1. Emphysema of the lungs.

Justification:

1) anamnesis:

• daily attacks of suffocation, expiratory dyspnea, the release of a small amount of viscous vitreous sputum;

• the relationship of the occurrence of seizures with the flowering period;

• association of the onset of the disease with psychoemotional shock;

• hereditary predisposition (attacks of suffocation in the next of kin);

• food and drug allergies;

2) objective data:

• viewed: forced position to facilitate breathing, cyanotic skin tone, barrel shaped chest, a flattening of supra - and infraclavicular fossae, the expansion of the intercostal spaces, the retraction of the intercostal spaces, jugular veins, respiratory rate is 26 / min.;

• when light percussion sound box, the omission of the lower border of the lungs, reduced lung tours;

• during auscultation, dry wheezing sounds against the background of weakened vesicular respiration, elongation of exhalation.

2. General blood test: against the background of inflammation, there may be leukocytosis and an increase in ESR, an increase in the number of eosinophils. Biochemical blood test: increased levels of immunoglobulins. Microscopic examination of sputum: eosinophils, collapsing eosinophils (a Charcot-Leyden crystals), casts of the bronchial tubes (spiral Churchman). Study of the function of external respiration spirography (decrease in the Tiffno index), pneumotachometry (low expiratory power), pneumotachography (bronchial obstruction at the level of small or medium bronchi). Chest X-ray: emphysema is characterized by increased transparency of the pulmonary fields, widening of the intercostal spaces, low standing and limited mobility of the diaphragm.

3. Asthmatic status. Respiratory failure. Chronic pulmonary heart disease.

**Task 4**

1. Inflammatory infiltration syndrome in the lung.

Justification:

1) subjective research data:

-intoxication syndrome, chest pain, increased cough, shortness of breath, cough with " rusty sputum”;

-acute onset of the disease;

2) objective data: fever,

-on examination: hyperemia of the face, herpetic rashes on the lips, lagging of the affected side of the chest when breathing;

-with percussion: blunting of the sound above the lower lobe of the right lung;

- increased vocal tremor during palpation;

-during auscultation, weakened vesicular respiration, crepitation.

2. A General analysis of blood: leukocytosis with a shift to the left leucoformula, increased 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.

3. Pleurisy, acute respiratory failure, collapse with a critical decrease in temperature, myocarditis, focal nephritis, meningitis, heart failure, lung abscess.

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #2, module 2 (see above).

**List of abstract topics:**

1. Asthmatic status.

2. Lung cancer,

3. Bacterial-toxic shock.

**Topic 2** Main pulmonary syndromes: obturation and compression atelectasis, accumulation of fluid and air in the pleural cavity, respiratory failure.

**Forms of ongoing monitoring of academic performance:**

-testing;

-oral interview;

- the decision problem and situational tasks;

- practical skills development;

- abstract.

**Evaluation materials of the current control of academic performance.**

**Questions for the test control:**

**Option 1**

1. Fingers in the form of "drumsticks" and nails in the form of "watch glasses" are found in

a) acute bronchitis

b) focal pneumonia

c) croup pneumonia

d) bronchiectatic disease

2. Hemoptysis is observed in

a) acute bronchitis

b) bronchiectatic disease

c) bronchial asthma

d) exudative pleurisy

3. X-ray sign of a lung abscess after a breakthrough in the bronchus

a) a rounded shadow

b) a cavity with a horizontal fluid level

c) increased transparency of the pulmonary fields

d) the shadow of a compressed lung

4. Elastic fibers in sputum are determined in

a) bronchial asthma

b) bronchitis

c) lung abscess

d) focal pneumonia

5. Pulmonary bleeding may occur in

a) acute bronchitis

b) bronchial asthma

c) croup pneumonia

d) lung cancer

6. Dulling of the percussion sound and weakening of the voice tremor occurs in

a) bronchitis

b) pneumonia

c) dry pleurisy

d) exudative pleurisy

7. Pleural puncture for diagnostic purposes is prescribed for

a) bronchial asthma

b) croup pneumonia

c) chronic bronchitis

d) exudative pleurisy

8. The location of the puncture during pleural puncture

a) along the upper edge of the rib

b) along the lower edge of the edge

c) does not matter

9. In exudative pleurisy, auscultation is determined by

a) amphoric respiration

b) lack of breathing on the affected side

c) crepitation

d) pleural friction noise

10. Radiological picture in exudative pleurisy

a) cavity with a horizontal fluid level

b) increased transparency of the lung

c) homogeneous shading of the lung with shift of the mediastinum in a healthy way

d) homogeneous shading of the lung with shift of the mediastinum to the affected side

**Option 2**

1. Pleurisy can be complicated by

a) bronchitis

b) bronchial asthma

c) tuberculosis

d) emphysema of the lungs

2. The patient takes a forced position lying on the affected side when

a) bronchitis

b) bronchial asthma

c) bronchiectatic disease

d) dry pleurisy

3. Chest pain that increases with coughing, pleural friction noise is

characteristic of

a) bronchitis

b) bronchial asthma

c) dry pleurisy

d) exudative pleurisy

4. Exudative pleurisy can be complicated by

a) bronchial asthma

b) bronchitis

c) tuberculosis

d) emphysema

5. Dulling of the percussion sound and weakening of the voice tremor occurs in

a) bronchitis

b) pneumonia

c) dry pleurisy

d) exudative pleurisy

6. Pleural puncture for diagnostic purposes is prescribed when

a) bronchial asthma

b) croup pneumonia

c) chronic bronchitis

d) exudative pleurisy

7. The location of the puncture during pleural puncture

a) along the upper edge of the rib

b) along the lower edge of the edge

c) does not matter

8. In exudative pleurisy, auscultation is determined

a) amphoric respiration

b) absence of respiration on the affected side

c) crepitation

d) pleural friction noise

9. X-ray picture in exudative pleurisy

a) a cavity with a horizontal fluid level

b) increased transparency of the lungs

c) homogeneous shading of the lung with shift of the mediastinum in a healthy way

d) homogeneous shading of the lung with shift of the mediastinum to the affected side

10. With pulmonary bleeding, the blood is

a) scarlet, foamy

b) dark, with clumps

c) the color of "coffee grounds"

d) cherry

**The standard answers**

**Option 1**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | d |
| 2 | b |
| 3 | b |
| 4 | c |
| 5 | d |
| 6 | d |
| 7 | d |
| 8 | a |
| 9 | b |
| 10 | c |

**Option 2**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | c |
| 2 | d |
| 3 | c |
| 4 | c |
| 5 | d |
| 6 | d |
| 7 | a |
| 8 | b |
| 9 | c |
| 10 | a |

**Questions for the oral survey:**

1. Obturation, compression atelectasis. Etiology, complaints of patients.

2. Physical changes in obturation, compression atelectasis. Data from instrumental and radiological studies.

3. Etiopathogenesis of the syndrome of the presence of air and fluid in the pleural cavity, the main complaints.

4. Physical, laboratory, instrumental and radiological data for this syndrome.

5. Insufficiency of external respiratory function (indicators, main causes). Acute and chronic form.

**Solving situational problems**

**Text of situational tasks**

**Task 1**

Patient I., 26 years old, turned to the paramedic with complaints of chills, dry cough, increasing with deep breathing, heaviness in the right half of the chest, increasing shortness of breath. It is easier for the patient to sit than to lie down. Ill for 2 weeks.

Objectively: the temperature is 37.80 C. The condition is of moderate severity. The skin is clean. When examining the chest, the lag of the right half during breathing, with palpation, the vocal tremor on the right is weakened. With percussion on the right along the mid-axillary line from the 7th rib and further down to the spine, the percussion sound is blunt. Breathing in this area is sharply weakened. The left border of relative cardiac dullness is 1 cm outside of the midclavicular line. The heart tones are muted, rhythmic. Heart rate 110 v min. Blood pressure of 90/60 mm Hg. No abdominal pathology was detected.

1. Formulate and justify the presumed syndrome.

2. Name the necessary additional studies.

3. List the possible complications.

**Task 2**

Patients A, B, and C were admitted to the pulmonology department of the hospital. They presented many different complaints, but all of them are concerned about constant shortness of breath. Some physical data were also similar. When palpating the chest, there is no vocal tremor on the right under the scapula. Percussion below 5 rib is defined by a dull sound. Auscultation in this area of the breath was not listened to. X-ray examination revealed a darkening in the lower parts of the right lung with an oblique upper border. For diagnostic purposes, a puncture of the pleural cavity was performed. A liquid of the following composition was obtained:

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristics of pleural fluid | patient А | patient B | patient C |
| Colour  Transparency  Specific gravity  Rivalt reaction  Protein  The cells of the mesothelium  Red blood cells  Neutrophils  Lymphocytes | straw-yellow  full  1010 negative  -  1 %  0 – 1 field of view  -  0 – 1 field of view  2 – 3 in the field of view | straw-yellow  full  1020  positive  5 %  5-8 in the field of view  1 – 2 – 3 in the field of view  3 – 5 in field of view  20-25 in sight | Bloody  cloudy  1022  positive  5 %  atypical cells  20-30 in sight, fresh  3 – 4 in field of view  2 – 3 in the field of view |

Try to determine what type of fluid (exudate, transudate) the contents of the pleural cavity in each of these patients belong to? What kind of disease can you think of, given the cellular composition of the exudate?

Task 3

Patient A was admitted to the clinic with complaints of pain in the left half of the chest, weakness, shortness of breath, fever up to 38 – 39 O. He was ill for 10 – 14 days. The skin is pale, with high humidity. When examining the chest, the left half lags behind when breathing. Apical impulse visually and by palpation is not defined.

Patient B has been suffering from purulent obstructive bronchitis for 20 years. Shortness of breath at rest, increases with exercise, edema of the lower extremities, heaviness in the right hypochondrium for the last 2-3 years. Diffuse cyanosis, pasty shins, emphysematous chest, positive venous pulse. On examination and palpation to the left of the sternum in the IV – V intercostal space, as well as in the epigastric region, pulsation is determined.

What syndromes determine the severity of the condition of patient A and patient B?

Task 4

Patient A was admitted to the pulmonology department with complaints of cough with purulent sputum up to 200.0-250.0 ml per day. The patient is 12 – 15 years old, exacerbations are annual, accompanied by an increase in temperature to 38-39.5 o, heavy night sweats, a decrease in appetite. When examined, the patient is of low nutrition, the skin is pale, the chest is barrel-shaped, the fingers are in the form of “drumsticks”, the nails resemble watch glasses. In what long-term current pulmonary syndromes can there be such changes in the terminal phalanges of the fingers?

Task 5

In the patient, the left half of the chest is swollen, lags behind in the act of breathing. Palpation: in the lower parts up to the 4th rib, the vocal tremor is not detected, above the 4th rib it is amplified. Percussion: with 4 edges and below, a zone of dull sound is defined, above 4 edges is blunted. Auscultation: on the left with 4 ribs and below-no vesicular respiration, above-mixed respiration. What syndrome is this characteristic of:

air in the pleural cavity

fluid in the pleural cavity

obturation atelectasis

Task 6

Patient K, 30 years old, a locksmith, was admitted to the clinic with complaints of sharp general weakness, pain in the right half of the chest, cough with the separation of a small amount of rust-colored sputum, fever. Ill for a week, the onset of the disease is associated with hypothermia (standing at the window with an open window pane). The allergological history is favorable. Smokes, drinks alcohol immoderately. From the transferred diseases remembers frequent colds. Objectively: the general condition is satisfactory, the skin is pale with an asymmetrical blush on the right cheek. Breathing on the right is gentle (the right half of the chest lags behind in the act of breathing). The percussive sound is blunted to the right below the angle of the scapula and outside. The breath on the right in the zone of bluntness is not listened to. The boundaries of the heart are normal. The heart tones are rhythmic, clear. Blood pressure 120/70 mm Hg, heart rate-88, BDD-21 per minute. The abdomen is painless, the liver is slightly enlarged. Blood test:er-4550000, HB-120g/l, white blood cells 10800, e-4, p-9, s-78, L-9, ESR – 35 mm/h Urinalysis: specific gravity 1018, white blood cells 1-2 in p. zr, er units in p/zr. Chest X-ray: the lung pattern on the left is without features, on the right the lower lobe is intensely darkened, the sinus is sealed, the descending fluid level is determined. Diagnosis?

**Response standards**

Task 1

1. Exudative pleurisy on the right.

Justification:

1) subjective study data:

• intoxication syndrome, dry cough, increasing shortness of breath, feeling of heaviness in one half of the chest;

• gradual onset of the disease;

• forced sitting position;

2) objective data:

• on examination: lag in breathing and swelling of the affected half of the chest; forced sitting position of the patient

• with percussion: dull sound over the affected area, displacement of the left border of the heart;

• palpation: attenuation of vocal tremor;

• during auscultation: breathing over the affected area is sharply weakened.

2. A General analysis of blood: there may be leukocytosis, increased ESR. Chest X-ray: darkening in the lower parts of the chest with an oblique upper border, displacement of the mediastinal organs to the healthy side, pleural puncture.

3. Respiratory and heart failure, development of pleural adhesions.

Task 2

In patient A-transudate, characteristic of diseases of the cardiovascular system, in patient B-exudate, inflammatory etiology, in patient B-exudate of tumor origin.

Task 3

The severity of the condition of patient A is due to the following syndromes: the syndrome of fluid accumulation in the pleural cavity, intoxication, respiratory failure. Patient B has a syndrome of impaired bronchial patency, increased airiness of the lung tissue, and respiratory failure.

Task 4

Air cavity syndrome in the lung, respiratory failure.

Task 5

Fluid in the pleural cavity

Task 6

Right-sided lower lobe croup pneumonia, complicated by exudative pleurisy.

Practical training on a clinical basis

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #2, module 2 (see above).

**List of abstract topics:**

1. Pulmonary embolism

2. Pulmonary hemorrhage

3. Spontaneous pneumothorax

4. Pulmonary heart

**Topic 3** Symptomatology of the most common respiratory diseases: acute and chronic bronchitis, bronchial asthma, focal and croup pneumonia. The symptomology of pleural effusion, bronchiectasis, lung abscess, lung cancer.

**Forms of current monitoring of academic performance:**

- written survey,

- oral interview,

-testing,

- practical skills,

- solving situational problems,

- abstract.

**Assessment materials of the current control of academic performance**

**Questions for the written survey**

Option 1

1. analysis of sputum in bronchial asthma

2. Physical data in the 2nd stage of croup pneumonia

Option 2

1. analysis of sputum in croup pneumonia

2. Emergency care for an attack of bronchial asthma

Questions for the oral survey:

1. General ideas about the etiology and pathogenesis of chronic bronchitis.

2. Clinical symptoms of chronic bronchitis. The main syndromes identified in this disease. Physical data.

3. Laboratory-instrumental, radiological indicators confirming the above diagnosis, the basic principles of treatment.

4. Etiology, pathogenesis of pneumonia. Classification of pneumonia.

5. Clinical symptoms of pneumonia. Questions of diagnosis and treatment.

6. Etiology, pathogenesis of bronchial asthma. Classification.

7. The etiology of pleurisy. Clinical symptoms, physical data.

8. Diagnostic value of radiological changes in the diagnosis of pleurisy, pleural puncture.

9. Classification of suppurative lung diseases. Bronchiectatic disease. Etiology, clinical symptoms, physical data, laboratory and instrumental diagnostics.

10. Lung abscess. Etiology, clinical symptoms, physical data, depending on the stage of the pathological process.

11. Lung cancer. Etiology, pathogenesis. Clinical symptoms.

12. Research methods that confirm the diagnosis of lung cancer (X-ray, instrumental, pathomorphological).

**Test tasks:**

**Option 1**

1#What factor is not involved in the mechanism of suffocation in bronchial asthma

+alveolar edema,

edema of the bronchial mucosa,

bronchospasm,

increased mucus secretion,

impaired sputum secretion

2 # Expiratory dyspnea is most characteristic of

exudative pleurisy

+attacks of bronchial asthma

cardiac asthma

bronchiectatic disease

3#Chest pain that increases with breathing, coughing, occurs when:

+dry pleurisy

bronchiectatic disease

exudative pleurisy

chronic bronchitis

4# What percussive sound is characteristic of a lung abscess after an abscess break:

clear, pulmonary

blunt

+tympanic boxed

5 # A decrease in the active mobility of the lower pulmonary margin is observed in all

but:

emphysema of the lungs

+acute bronchitis

exudative pleurisy

fusion and obliteration of the pleural sheets

Вариант 2

1#Для какого из перечисленных заболеваний наиболее характерен кашель с выделением

слизисто-гнойной мокроты:

первая стадия крупозной пневмонии

сухой плеврит

+обострение хронического бронхита

2#Сухой кашель наиболее характерен для:

второй стадии крупозной пневмонии

периода после прорыва абсцесса легкого

обострения хронического бронхита

+ларингита

3#Для какого синдрома характерно кровохарканье:

синдром повышенной воздушности легочной ткани

синдром скопления жидкости в плевральной полости

синдром скопления жидкости и газа в плевральной полости

+синдром полости в легком

4#Усиление голосового дрожания наблюдается при:

остром бронхите

+второй стадии крупозной пневмонии

бронхиальной астме

эмфиземе легких

5#Какой перкуторный звук характерен для повышенной воздушности легочной ткани:

ясный, легочный

тупой

тимпанический

+коробочный

**Texts of situational tasks (typical)**

Task 1

# In the emergency department, a young man, 23 years old, was taken by ambulance from the gym, who had a sharp pain in the right subclavian region, increasing shortness of breath during lifting the barbell. on examination: the right half of the chest lags behind in the act of breathing. The voice tremor is abruptly reduced. With percussion, the tympanic sound is determined. Auscultation revealed a significant weakening of respiration and bronchophony. What kind of pathology can think of:

lobar pneumonia

pleural effusion

+spontaneous pneumothorax

choking attack with bronchial asthma

obturation atelectasis

Task 2

# Patient T., 52 years old, on examination: barrel-shaped chest. A blunt epigastric prick was revealed, the horizontal position of the ribs, the supra-and subclavian fossa were smoothed. On palpation: the vocal tremor is carried out equally on both sides, somewhat weakened. With percussion: box percussion sound. During auscultation: the same weakened breathing is heard over both lungs. No adverse respiratory noises. What the patient has: a

cavity in the lung associated with the bronchus

lobular inflammatory lung seal

+emphysema of the lungs

narrowing of the lumen of the bronchi with a viscous exudate

Task 3

# A 60-year-old patient was admitted with complaints of shortness of breath with little physical exertion and at rest, an increase in the volume of the abdomen, edema of the lower extremities. Objectively: the position of orthopnea, swelling of the cervical veins, ascites, edema on the legs, pulse of 100 beats in 1 min, blood pressure-90/60 mm Hg. above the lower parts of the lungs, a shortening of the percussion sound is determined, breathing is not heard. About the insufficiency of which part of the heart can be thought of:

left ventricle

right atrium

+right ventricle

left atrium

Task 4

In the patient Z. when questioned, they found rapid fatigue, poor sleep, decreased appetite, weight loss, palpitations, difficulty breathing mainly on exhalation, during physical exertion or at rest; shortness of breath, reaching suffocation; sputum is mainly mucous; cough is mainly dry, associated with the weather and time of year.

Inspection: as moderate to severe, the consciousness of the patient soporose, face cyanothece, acrocyanosis; chest emphysematous connected auxiliary respiratory muscles, the supraclavicular fossa bulges, chest rigid, takes inspiratory position of the fingers in the form of "drum sticks", the nails in the form of "hour glasses". It is difficult to exhale, shortness of breath during physical and at rest, there is suffocation; breathing is shallow, with an open mouth, epigastric pulsation is visible. Palpation: the vocal tremor is attenuated; a heartbeat is detected; the intercostal spaces are wide. Percussion: clear pulmonary sound with a boxy tinge, the lower border of the lungs is omitted, the percussion borders of the heart are changed, mainly the absolute dullness of the heart is reduced. Auscultation: bronchophony is weakened, vesicular breathing is weakened, with an elongated exhalation; wheezing is mostly dry, changes after coughing, sometimes wet, not audible, different-caliber. Laboratory and instrumental data: erythrocytosis, eosinophilia. Radioscopically – emphysema of the lungs, increased lung transparency, pneumosclerosis. ECG-overload of the small circle of blood circulation, hypertrophy of the right heart: myocardial dystrophy. What kind of syndrome are we talking about in this case?

Answer: bronchial obstruction syndrome.

Task 5

Shortness of breath is expressed at rest. The left half of the chest lags behind in the act of breathing. Vocal tremor from the third rib and below is not performed. Percussive tympanic sound is determined. Breathing is not monitored. Bronchophonia is not performed. Above the III rib, a vocal tremor is performed. Here, blunted tympanitis, weakened breathing, bronchial. What kind of pathological syndrome are you thinking about?

Answer: a pneumothorax.

Task 6

Shortness of breath, attacks of suffocation with difficulty exhaling. The cough is dry, with percussion over the surface of the chest, the sound is pulmonary, in the lower-lateral parts with a boxy tinge. Breathing above the surface of the lungs is hard, a mass of dry, wheezing wheezes throughout. Vocal tremor and bronchophonia in the lower-lateral parts are weakened. What kind of pathological syndrome are you thinking about?

Answer: bronchial obstruction syndrome.

Task 7

Shortness of breath during exercise. The cough has been dry for many years. The thorax is barrel-shaped, rigid. The voice tremor is abruptly reduced. With percussion, the box sound is more pronounced in the lower-lateral sections. Breathing is sharply weakened, vesicular. Bronchophonia is weakened. What kind of pathological syndrome are you thinking about?

Answer: emphysema.

Task 8

The patient M. has a nasal cough, sputum with streaks of blood, an increase in body temperature, weakened bronchial respiration, shortening of the percussion tone reaches a stony dullness. Patient N. has pronounced dyspnea, stenotic character of breathing, hoarseness of voice, dysphagia, edema of the upper half of the trunk and neck. Radiologically, in patients with M. and N., lung root dilatation and inhomogeneous darkening along the periphery, high standing of the diaphragm, displacement of the mediastinum in the direction of the" sick " lung. On the tomograms signs of obstruction of the bronchus. Tumor cells were found in the sputum. In the blood, neutrophilic leukocytosis, anemia, accelerated ESR. What disease should be assumed in patients with M. and N.?

Answer: central lung cancer, obturation atelectasis syndrome.

Task 9

In the patient D. in the clinic of the disease, two "separate" periods should be distinguished. The first period for 10 to 12 days was characterized by general malaise, weakness, chills, cough with scant sputum, chest pain, shortness of breath. The fever was initially remitting (debilitating), and then hectic (debilitating). The percussive sound is blunted, and then blunt. Vesicular breathing is weakened, sometimes with a bronchial tinge. In the blood, neutrophilic leukocytosis with a shift to the left to myelocytes, ESR of more than 60 mm / hour. Radiological picture of infiltration in the lung tissue. The second clinical period in patient D. began with a sudden copious ("full mouth") discharge of purulent sputum (more than 370 ml). Sputum has an unpleasant smell (fetid), when standing, it is divided into three layers – mucous, serous and purulent. The body temperature after sputum discharge dropped to subfebrile. There is a lag in the affected half of the chest in the act of breathing. Percussion-tympanitis, bronchial, amphoric respiration. Sonorous, moist, large-bubbled wheezes. In the blood, in addition to neutrophilosis and accelerated ESR, there are signs of iron deficiency anemia. Sputum contains a lot of white blood cells and red blood cells, elastic fibers, and abundant coccal flora. Radiologically, the clearances with the liquid level are determined. Despite changes in the patient's body position, the fluid level remains horizontal. What kind of disease it should be assumed?

Answer: lung abscess.

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #2, module 2 (see above).

List of abstract topics:

1. Atypical pneumonia

2. Viral pneumonia

3. Bacterial-toxic shock

4. Complications of pneumonia

5. Chronic obstructive pulmonary disease

6. Lung cancer

**Topic 4** Main cardiac syndromes: cardiac arrhythmias, blockades. Electrocardiography. Check-in, analysis.

**Forms of ongoing monitoring of academic performance:**

-written survey;

-oral survey;

-the development of practical skills;

-report.

**Assessment materials of the current control of academic performance**

Questions for the written survey:

Option 1

1. Classification of arrhythmias

2. Physical data in atrial fibrillation

Option 2

1. Emergency care for supraventricular tachycardia paroxysm

2. Morgagni-Adams-Stokes attack

Questions for the oral survey:

1. Etiology and pathogenesis of cardiac arrhythmia.

2. Clinical symptoms and ECG-diagnosis of extrasystole, atrial fibrillation and paroxysmal tachycardia.

3. The mechanism and types of conduction disorders (blockages).

4. Symptoms and ECG diagnosis of blockages. Morgagni-Adams-Stokes syndrome.

**The development of practical skills: ECG interpretation**

**Tasks for ECG films (the ECG analysis algorithm is described in detail in lesson 1 of module 2)**

- Determine the number of heartbeats

- Rhythm

-Duration of the PQ interval

- Duration of the QRS and its changes

- The P-wave and its changes

-The location of the S-T interval in relation to the isoline

- The T-wave is normal and pathological

- Conclusion:…

Abstract topics:

1. Extrasystole

2. Fibrillation, atrial flutter

3. Supraventricular paroxysmal tachycardia

4. Ventricular paroxysmal tachycardia

5. Emergency care for life-threatening arrhythmias

6. Atrioventricular blockades

7. Diagnosis of rhythm and conduction disorders

8. Arrhythmogenic shock

**Topic 5** Main cardiac syndromes: acute left ventricular failure, chronic heart failure. Hypertension of the small circle of blood circulation, pulmonary heart.

**Forms of current performance monitoring:**

-testing;

-oral survey;

-the solution of the problem-situational tasks;

-the development of practical skills;

-report.

Evaluation materials of the current control of academic performance.

**Questions for the test control:**

**Option 1**

1. Hemoptysis is a common sign

a) aortic insufficiency

b) myocardial infarction

c) angina pectoris

d) mitral stenosis

2. With exudative pericarditis, the patient takes a forced

position

a) horizontal

b) horizontal with raised legs

c) lying on his side

d) sitting with the torso tilted forward

3. The main etiological factor in the development of hypertension

a) neuropsychiatric overstrain

b) glomerulonephritis

c) obesity

d) Itsenko-Cushing's disease

4. Severe headache, nausea, vomiting, "flies" in front of the eyes, a

tense pulse are observed with

a) fainting

b) collapse

c) hypertensive crisis

d) angina pectoris

5. Functional class of angina, in which an attack of pain

occurs under high-intensity load

a) first

b) second

c) third

d) the fourth

6. Local arterial anemia is

a) anemia

b) ischemia

c) hypoxia

d) hypoxemia

7. Typical form of myocardial infarction

a) abdominal

b) anginous

c) asthmatic

d) pain-free

8. Complication of myocardial infarction requiring

resuscitation

a) cardiogenic shock

b) collapse

c) sinus tachycardia

d) ventricular fibrillation

9. Clinical symptoms of cardiogenic shock

a) fever, lymphadenopathy

b) fever, cough with "rusty" sputum

c) a sharp decrease in blood pressure, a frequent thready pulse

d) a sharp increase in blood pressure, a tense pulse

10. In the first days, a patient with a myocardial infarction is prescribed a regimen

a) strict bed rest

b) bed rest

c) ward regimen

d) free regime

Option 2

1. Hypertensive crisis auscultation notes

a) the weakening of the first tone at the top

b) the weakening of the second tone at the apex

c) the emphasis of the second tone on the aorta

d) the emphasis of the second tone on the pulmonary artery

2. Complication of hypertension

a) stroke, myocardial infarction

b) fainting, collapse

c) rheumatism, heart disease

d) pneumonia, pleurisy

3. The patient on the background of a hypertensive crisis appeared suffocation and copious

foamy pink sputum-this is

a) croup pneumonia

b) pulmonary hemorrhage

c) pulmonary edema

d) pulmonary embolism

4. A firm, tense pulse is observed in

a) hypertensive crisis

b) fainting

c) collapse

d) cardiogenic shock

5. Risk factor for atherosclerosis

a) high cholesterol

b) physical education classes

c) unencumbered heredity

d) rational nutrition

6. Complication of atherosclerosis

a) ascites

b) myocardial infarction

c) pyelonephritis

d) pneumonia

7. Anti-atherogenic lipoproteins are

a) high density

b) low density

c) very low density

d) total cholesterol

8. Compressive pain behind the sternum, radiating under the left shoulder blade,

lasting 5-10 minutes, is characteristic of

a) bacterial endocarditis

b) myocardial infarction

c) rheumatic endocarditis

d) angina pectoris

9. Functional class of angina, in which an attack of pain

occurs when walking less than 100 m or at rest

a) first

b) second

c) third

d) fourth

10. Functional class of angina pectoris, in which a pain attack occurs during high-intensity exercise

a) the first

b) the second

c) the third

d) the fourth

**Standards of answers:**

**Option 1**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | d |
| 2 | d |
| 3 | a |
| 4 | c |
| 5 | d |
| 6 | b |
| 7 | b |
| 8 | a |
| 9 | c |
| 10 | a |

**Option 2**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | c |
| 2 | a |
| 3 | c |
| 4 | a |
| 5 | a |
| 6 | b |
| 7 | a |
| 8 | d |
| 9 | d |
| 10 | d |

**Questions for the oral survey:**

1. Etiology, pathogenesis and symptoms of acute left ventricular failure (cardiac asthma, pulmonary edema).

2. Emergency care for acute left ventricular failure (cardiac asthma, pulmonary edema).

3. Etiology, pathogenesis and symptoms of chronic heart failure – CHF) - left ventricular and right ventricular. Principles of treatment.

4. Classification of CHF according to N. D. Strazhesco and V. H. Vasilenko. Functional classes of heart failure.

**Abstract topics:**

1. Cardiac asthma

2. Cardiogenic pulmonary edema

3. Acute right ventricular failure

4. Pulmonary embolism

5. Diagnosis of chronic heart failure

6. Principles of treatment of chronic heart failure

7. Emergency care for acute left ventricular heart failure.

3. Test tasks

**Topic 6.** Basic cardiac syndromes. Arterial hypertension syndrome. Hypertension. Secondary, symptomatic arterial hypertension. Arterial hypotension syndrome. Acute vascular insufficiency syndrome (syncope, collapse, shock). Emergency care.

**Forms of current monitoring of academic performance:**

- written survey,

- oral interview,

- solving situational problems,

- testing

- research papers

**Assessment materials of the current control of academic performance**

**Questions for the written survey:**

**Option 1**

1. Stages of hypertension

2. Type 1 hypertensive crisis, emergency care

**Option 2**

1. Physical data for pulmonary hypertension

2. Type 2 hypertensive crisis, emergency care

**Questions for the oral survey:**

1. Etiology, pathogenesis, clinical signs of arterial hypertension syndrome (AH). Severity of arterial hypertension.

2. The concept of symptomatic hypertension.

3. Clinical signs of renal, renovascular, endocrine, and cerebral hypertension.

4. The defeat of the “target " organs in arterial hypertension.

5. Arterial hypotension syndrome (etiology, clinical signs).

6. Etiology, symptoms of hypertension of the small circle of blood circulation, diagnostic criteria.

**Test tasks:**

**Option 1**

1#The most important signs of chronic left ventricular failure are all,

except:

+ cyanosis

cough

sometimes hemoptysis

shortness of breath

2 # Hemoptysis is most common in:

hypertension

infectious endocarditis

+ mitral stenosis

of tricuspid valve insufficiency

3 # Visually, the cardiac shock manifests itself as: a

diffuse pulsation on the left side of the sternum, extending to the epigastric region;

pulsation in the II-III intercostal space on the left near the sternum;

+ limited rhythmic pulsation in the V intercostal space to the left inside of the mid-clavicular

line;

pulsation in the second intercostal space to the right of the sternum.

4 # Increased and diffused cardiac shock and epigastric pulsation are observed in:

left ventricular hypertrophy

+hypertrophy of the left atrium

hypertrophy and dilatation of the right ventricle

5#Chronic right ventricular failure is characterized by everything except:

cyanosis

edema

dropsy of the cavities

+

liver enlargement hemoptysis

6 # Pulsation of the veins of the neck, if it coincides with the systole of the ventricles and the pulse of the carotid artery

and most often appears in the insufficiency of the tricuspid valve, is called:

+positive venous pulse

negative venous pulse Quincke

pulse

7 # Low cardiac output and reduced compensatory capacity of the heart are typical

for:

+systolic CH

diastolic CH

8 # An increase in pulmonary venous pressure, pressure in the pulmonary capillaries and their

permeability is observed when:

+the right ventricular ejection is greater than the left ventricle;

the ejection of the right and left ventricles is the same

the ejection of the right ventricle is reduced

9 # Reduction of dyspnea in orthopnea causes:

increased venous flow to the right ventricle

compensatory tachycardia

+ reduction of venous flow to the right ventricle

10#The appearance of shortness of breath, tachycardia, fatigue only with physical exertion

corresponds to the following stage of heart failure:

+I

II

III

11#Severe hemodynamic disorders with the development of irreversible stagnation in the organs and general dystrophy, sometimes exhaustion, complete disability corresponds to the following stage of heart failure:

I

II

+III

12# Arterial hypertension is an increase in blood pressure above

130/80 mm Hg

+140/90 mm Hg

120/80 mm Hg

13#Visible pulsation of the dilated trunk of the pulmonary artery is detected as:

pulsation on the left side of the sternum, extending to the epigastric region

pulsation in the II-III intercostal space to the left of the sternum

limited rhythmic pulsation in the V intercostal space to the left, inside of the mid-clavicular line

+ pulsation in the second intercostal space to the right of the sternum

14#Left shift of the left border of relative cardiac dullness is observed in all but: right-

sided hydrothorax left-

sided hydrothorax right-

sided pneumothorax

+levostoronnee obturating atelectasis

15#With pulmonary embolism, a syndrome develops:

acute left ventricular failure

+acute right ventricular failure

chronic right ventricular failure

16 # Overload of the right ventricle develops with:

narrowing of the isthmus of the aorta

+pulmonary hypertension

aortic valve insufficiency

**Option 2**

1#For stagnation of blood in the small circle of blood circulation, the symptom is characteristic:

cardialgia

palpitation cordis

+asthma cardiale

hepatomegalia

2#The greatest importance in the pathogenesis of cardiac edema is: an

increase in hydrostatic pressure in the venous bed of the large circle of blood circulation a

decrease in oncotic plasma pressure

+ sodium and water retention due to activation of the renin-angiotensin-aldosterone

system

increased vascular permeability

3#Edema caused by right ventricular insufficiency is characterized by everything except the

initial manifestation on the feet and shins,

combined with pronounced peripheral acrocyanosis

+ combinations with diffuse cyanosis

increase or appearance of edema in the evening

4 # Expansion of the boundaries of absolute cardiac dullness is observed in all cases, except for:

+ dilatation of the right ventricle of the

high standing of the diaphragm

low standing of the diaphragm

wrinkling of the pulmonary edges

5#For cardiac asthma, everything is characteristic, except: paroxysmally

occurring attack of suffocation,

orthopnea, the

appearance or increase in wet, small-bubble wheezing of the posterior parts of the lungs

+the appearance of rapidly increasing edema

6#Adaptive response, providing an increase in the minute volume

blood circulation, is a symptom of:

shortness of breath heart

failure heart

pain

orthopnea

+tachycardia

7#The manifestation of stagnation in the large circle of blood circulation is a sign:

pulsation of the carotid arteries

+ swelling of the cervical veins

positive venous pulse

8 # Increased end-diastolic pressure in the left ventricle, the development of myogenic LV

dilatation, stagnation of blood in the lungs occur in heart failure: right

ventricular

+ left ventricular

total

9#The most informative method of instrumental diagnosis of heart

failure is:

+Echo

ECG

FKG

radiography of the heart

10 # Constant shortness of breath, tachycardia, stagnation in the small circle of blood circulation corresponds to the

following stage of heart failure:

I

+II

III

11#In the case of arterial hypertension syndrome

, the right ventricle is hypertrophied:

+the left ventricle

left and right atria

interventricular septum

12#The left border of relative cardiac dullness is normally determined:

in the IV intercostal space along the left mid-clavicular line

+in the V intercostal space 1-2 cm inside from the left mid-clavicular line

in the V intercostal space 1-2 cm outside from the left mid-clavicular line

13#Visible pulsation in aneurysm of the ascending aortic arch is detected as:

+ pulsation on the left side of the sternum, extending to the epigastric region

pulsation in the II-III intercostal space to the left of the sternum

limited rhythmic pulsation in the V intercostal space to the left, inside of the mid-clavicular line

pulsation in the II intercostal space to the right of the sternum

14#The right border of relative cardiac dullness is normally determined:

in the V intercostal space 2 cm outside of the right edge of the sternum

+in the IV intercostal space on the right edge of the sternum or 1 cm outside of the right edge of the sternum

in the IV intercostal space 3 cm outside of the right edge of the sternum

15# Normally, the apical push is visually manifested as: a

pulsation on the left side of the sternum, extending to the epigastric region

+ pulsation in the II-III intercostal space to the left of the sternum

limited rhythmic pulsation in the V intercostal space to the left, inside of the mid-clavicular line

pulsation in the II intercostal space to the right of the sternum

16 # Left ventricular overload develops in:

pulmonary hypertension

tricuspid valve insufficiency

+mitral insufficiency

**Texts of situational tasks (typical):**

**Task 1**

A 53-year-old patient suffers from hypertension for about 15 years, blood pressure rises to 220/120 mm Hg. She constantly takes antihypertensive drugs. On examination, the skin is of the usual color, shortness of breath, no edema. The apical shock is diffused, attenuated, 1.5 cm outwards in the V intercostal space, to the left of the l. Mediaclavicularis. Percussion expanded the left border of relative dullness in the fourth and fifth intercostal spaces. During auscultation, the tones are muted, with a gentle short, systolic murmur at the tip, which is not carried out anywhere. On the aorta:

Answer: Accent II tone

Task 2

A 44-year-old man, a steelworker, turned to the shop therapist for another preventive examination. During the examination, he complains of periodic pain in the heart and behind the sternum, which occasionally occurs when walking fast and during significant emotional overload, short-term, lasting 5-7 minutes, passing independently after the load stops. There are no other complaints. Objectively: the condition is satisfactory. Hypersthenic. Increased nutrition. The skin and mucous membranes of the usual color. In the lungs, vesicular breathing, no wheezing. The apical push on palpation is determined in the V intercostal space along the mid-clavicular line, the right border is 1 cm outside of the right edge of the sternum, the upper-III intercostal space along the parasternal line. The heart tones are rhythmic, the 1 tone at the top is the same volume as the II tone. The II tone is based on the louder I tone. Noises are not listened to. Blood pressure 130/80 mm Hg. Abdomen without features. What diseases do patients have? Evaluate the percussive and auscultative data from the heart.

Answer: The patient has transient rises in blood pressure, CHD, angina pectoris, pkI Heart is expanded to the left, which may be associated with hypertension and cardiosclerosis, the emphasis of the II tone on the aorta indicates a history of systemic hypertension.

Task 3

A 67-year-old patient was taken to the therapeutic department with complaints of paroxysmal shortness of breath, chest tightness, and dry cough. This condition occurred for the first time, suddenly at night during sleep. He has been suffering from hypertension for the last 5 years and has not been treated systematically. The patient is agitated, orthopnea, diffuse pallor of the skin with cyanosis of the face and lips. Breathing is hoarse – 40 per minute. Pulse – 120 per minute, rhythmic, tense. BP – 160/120 mm Hg. The left border of cardiac dullness is shifted laterally by 2 cm. At the top of the I tone is muted, the rhythm of the gallop, on the aorta the accent of the II tone. In the lungs there is a mass of dry wheezes, in the upper and middle parts there are small-bubbled wet wheezes. The liver is not palpable, there is no edema. Body temperature is normal. There is no significant pathology in the urine tests. On the ECG, sinus achycardia, EOS deviation to the left, left ventricular hypertrophy. Evaluate the patient's condition. What clinical syndrome is detected in the patient?

Answer: The condition is serious. Clinical syndrome-cardiac asthma, not excluded against the background of developing acute myocardial infarction; hypertensive crisis.

Task 4

A 19-year-old patient was sent for examination with a suspected diagnosis of mitral heart disease. The examination revealed a systolic murmur at the top of the heart. Which method of examination is most informative for confirming or excluding the diagnosis of heart disease:

ECG,

+echocardiography, chest X

-ray, blood

test for anti-streptococcal antibody titers,

none of the above methods

Abstract topics:

1. Pulmonary hypertension

2. " Pulmonary heart»

3. Hypertensive crises. Emergency care.

**Topic 7** Atherosclerosis. Coronary artery disease. Angina, classification, pathogenesis. Myocardial infarction.

**Forms of current monitoring of academic performance:**

**-**testing;

-oral interview;

-the decision problem and situational tasks;

-practical skills development;

-abstract.

**Assessment materials of the current control of academic performance**

**Questions for the oral survey**

1. Atherosclerosis. Coronary artery disease. Angina. Risk factors, etiology, pathogenesis, clinical picture, instrumental diagnostics, laboratory and biochemical data. Classification of coronary artery disease.

2. Myocardial infarction (risk factors, clinical picture, instrumental diagnosis, laboratory and biochemical data).

3. Shock, fainting, collapse-distinctive signs, emergency care.

**Test tasks:**

**Option 1**

1#For heart pain caused by acute coronary circulatory insufficiency in angina, it is not typical:

localization behind the sternum or to the left of it

, radiation under the left shoulder blade, in the left arm, neck are

quickly stopped by nitroglycerin

+it is stopped with a cold compress

2 # A pathological condition characterized by a violation of peripheral circulation, usually with arterial hypotension, having a variety of etiology and pathogenesis, is designated as:

fainting

+shock

heart failure

3 # A condition characterized by the appearance of prostration, pallor, coldness of the skin, tachycardia, hypotension, decreased diuresis against the background of massive bleeding is called:

orthostatic collapse

heart failure

+shock

4 # Pulmonary edema can develop in:

hypertension

aortic malformation

mitral malformation

myocardial infarction

+all

5#In which leads are recorded changes characteristic of myocardial infarction of the posterior (lower) wall of the left ventricle

I,aVL,V5-V6

V1-V4

+ III,aVF

6#Complications of myocardial infarction include:

cardiogenic shock pulmonary

edema ventricular

fibrillation Dressler

syndrome

+all correct

Option 2

1#Specify the most likely pathogenetic cause short-term pain localized in the chest, radiating to the left and up (left shoulder, arm, shoulder blade, sometimes in the left half of the mandible, the left hypochondrium and epigastric region), bearing the often oppressive in nature, quickly stoped nitroglycerin:

+coronary insufficiency

pericarditis

acute myocarditis

the defeat of the aorta

2 # Sudden short-term loss of consciousness that occurs when moving from a horizontal position to a vertical position is called:

shock

+ orthostatic collapse

heart failure

3 # Pulmonary edema is a manifestation of:

acute right ventricular failure

chronic right ventricular failure

chronic left ventricular failure

+acute left ventricular failure

4 \* The stages of transmural myocardial infarction include:

+Acute

+Subacute

+Scarring

Recoveries

5 # ECG-signs of the subacute stage of transmural myocardial infarction:

+deep Q wave, ST segment on the isoline, T wave ( -) "coronary"

deep Q wave, ST segment elevation by 2 mm or more, T wave ( -) deep, " coronary»

deep Q wave, ST segment elevation by 2 mm or more, high T wave (+), "coronary"

6#Direct visualization of the heart is performed using

the electrocardiography method,

+echocardiography,

Phonocardiography

**Situational problems:**

**Task 1**

In a 65-year-old patient who has been suffering from hypertension for 20 years and does not take antihypertensive drugs, blood pressure is kept at the level of 150 - 160/102-108mmri.st. the apical push is located along the mid-clavicular line, strong, diffuse. Blood pressure at the time of examination is 160/100 mm Hg.

1. What is the degree of hypertension according to the level of blood pressure?

2. What changes can be detected in the patient's percussion?

3. What changes can be detected during auscultation of the patient?

4. What changes can be detected on the ECG?

**The standard answers:**

**Task 1**

1. 2nd degree

2. the boundaries of relative dullness are shifted to the left, which is characteristic of LV hypertrophy

3. 2 tone accent on the aorta

4. deviation of the EOS to the left, reduction of ST to a negative indicator, hypertrophy of the left ventricle.

**Task 2**

In a 60-year-old patient suffering from hypertension for 20 years, who had not previously taken antihypertensive drugs, blood pressure was kept at the level of 160-190/110-116 mm Hg. In the last 2 years, severe pain appeared in the leg muscles when walking, forcing them to stop. Effective antihypertensive therapy is carried out for 6 months. Blood pressure at the time of examination is 140/80 mm Hg, however, auscultation reveals an accent of the second tone above the aorta.

1. What is the degree of hypertension according to the level of blood pressure?

2. What is the cause of "intermittent claudication"?

3. What is the stage of hypertension and the reason for its establishment?

4. What is the possible reason for the accent of the second tone above the aorta?

**Task 3**

A 55-year-old man at the height of an unusual physical activity experienced a compressive pain behind the sternum with radiation to the left arm. The pain lasted for 10 minutes and passed after the end of physical activity.

1. What is the manifestation of the disease was the chest pain?

2. What drug and after what time could relieve chest pain?

3. What is the duration of pain characteristic of angina pectoris?

**Task 4**

A 55-year-old man had a very strong compressive pain behind the sternum in the morning, with radiation to the left arm, shoulder, there was a fear of death, pronounced weakness. The pain did not go away after taking several nitroglycerin tablets and was stopped by the ambulance team with narcotic analgesics.

1. What is your presumed syndrome?

2. What criteria make the syndrome reliable?

3. Increase in the activity of which enzymes and in what sequence is characteristic of this disease?

4. Increased activity level, which regulatory proteins are characteristic of this disease?

**Task 5**

A 52-year-old male smoker who is overweight, has untreated arterial hypertension and high blood cholesterol in the morning had a very strong compressive pain behind the sternum with radiation to the left arm, shoulder, there was a fear of death, pronounced weakness. The pain did not go away after taking nitroglycerin

1. What is your presumed syndrome?

2. What criteria make the diagnosis reliable?

3. What drugs are used to relieve such pain attacks?

4. What are the other clinical variants of the onset of this disease?

**The standard answers:**

**Task 1**

1. 2nd degree

2. the boundaries of relative dullness are shifted to the left, which is characteristic of LV hypertrophy

3. 2 tone accent on the aorta

4. deviation of the electric axis of the heart to the left, reduction of ST to a negative indicator, hypertrophy of the left ventricle.

Task 2

1. 3rd degree

2. atherosclerosis of the arteries of the n / extremities

3. Stage 3, target organ damage

4. increase in the rate of closing of the aortic valve flaps; compaction of the aortic valve flaps and aortic walls.

Task 3

1. angina pectoris

2. nitroglycerin under the tongue

3. 1-15minute

Task 4

1. the syndrome of acute coronary insufficiency

2. clinic-the pain lasts more than 15 minutes, is not removed by nitroglycerin, laboratory diagnostics, ECG

3. increase in creatine phosphokinase MVin the first hours; 2nd day-AST; 3-5 day – LDG

4. positive reaction to C-reactive protein, troponin-a protein of the heart muscle.

Task 5

1. the syndrome of acute coronary insufficiency

2. clinic-the pain lasts more than 15 minutes, is not removed by nitroglycerin, laboratory diagnostics

3. narcotic analgesics

4. abdominal, cerebral, asthmatic, arrhythmic, pain-free.

Practical training on a clinical basis

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**List of abstract topics:**

1. Clinical manifestations of myocardial infarction. Emergency care.

2. Cardiogenic shock. Emergency care.

3. Complications of myocardial infarction

4. Diagnosis of myocardial infarction

5. Collapse, emergency care

6. Syncopal states.

**Practical skills development, analysis of ECG films - myocardial infarction (the algorithm is described in detail in lesson 1 of module 2)**

Tasks for ECG films

- Determine the number of heartbeats

- Rhythm

-Duration of the PQ interval

- Duration of the QRS and its changes

- The P-wave and its changes

-The location of the S-T interval in relation to the isoline

- The T-wave is normal and pathological

- Conclusion:…

**Topic 8** Acquired heart defects: mitral stenosis and insufficiency.

**Forms of current monitoring of academic performance:**

-testing;

-oral interview;

-practical skills development;

-abstract.

**Assessment materials of the current control of academic performance**

**Questions for the oral survey:**

1. Etiology of mitral defects.

2. Intracardiac hemodynamics in mitral stenosis and mitral insufficiency.

3. Complaints of patients with mitral stenosis and mitral insufficiency.

4. Examination and palpation data for mitral stenosis and mitral insufficiency.

5. What is the configuration of the heart in mitral stenosis and mitral insufficiency?

6. How do heart tones change in mitral stenosis and mitral insufficiency?

7. What noise is characteristic of mitral stenosis and mitral insufficiency? The best place of the hearing.

8. ECG and echocardiographic changes characteristic of mitral stenosis and mitral insufficiency.

**Questions for the test control:**

**Option 1**

1. The etiology of rheumatism

a) beta-hemolytic streptococcus group A

b) Staphylococcus aureus

c) E. coli

d) Streptococcus pneumoniae

2. Rheumatism develops after angina after

a) 1-2 days

b) 3-4 days

c) 1-3 weeks

d) 1-3 months

3. Rheumatism is more common in people aged

a) 1-2 years

b) 5-7 years

c) 7-15 years

d) 18-25 years old

4. Fever, endomyocarditis, polyarthritis are observed in

a) atherosclerosis

b) hypertension

c) coronary heart disease

d) rheumatism

5. With rheumatism, the valve

a) aortic

b) mitral

c) pulmonal

d) tricuspid is more often affected

6. The most common outcome of rheumocarditis

a) atherosclerosis

b) hypertension

c) heart disease

d) recovery

7. The symptom of "cat purring" is determined in

a) myocardial infarction

b) angina pectoris

c) mitral insufficiency

d) mitral stenosis

8. The appearance of a noise at the top of the heart indicates a lesion

a) aortic valve

b) mitral valve

c) pulmonate valve

d) tricuspid valve

9. Auscultation data for mitral insufficiency

a) diastolic murmur at the apex

b) systolic noise at the apex

c) diastolic noise in the 2nd intercostal space on the right side of the sternum

d) systolic murmur in the 2nd intercostal space on the right side of the sternum

10. Pulsation of the carotid arteries ("carotid dance") is observed in

a) aortic insufficiency

b) aortic stenosis

c) mitral insufficiency

d) mitral stenosis

**Option 2**

1. The main cause of acquired heart defects

a) hypertension

b) myocardial infarction

c) angina pectoris

d) rheumatism

2. Complaints of the patient with compensated mitral insufficiency

valves

a) headache

b) shortness of breath c

) edema

d) no complaints

3. The color of the skin in mitral stenosis

a) pale

b) jaundice c

) normal color

d) cyanotic

4. High pulse blood pressure is observed in

a) aortic insufficiency

b) aortic stenosis c

) mitral insufficiency

d) mitral stenosis

5. The appearance of noise in the second intercostal space to the right of the sternum and at the point

Botkin indicates a lesion of the valve

a) aortic

b) mitral c

) pulmonate

d) tricuspid

6. Hemoptysis is a common sign

a) aortic insufficiency

b) myocardial infarction c

) angina pectoris

d) mitral stenosis

7. Etiology of rheumatism

a) beta-hemolytic streptococcus group A

b) Staphylococcus aureus

c) E. coli

d) Streptococcus pneumoniae

8. Rheumatism develops after angina after

a) 1-2 days

b) 3-4 days c

) 1-3 weeks

d) 1-3 months

9. Rheumatism is more common in people aged

a) 1-2 years

b) 5-7 years c

) 7-15 years

d) 18-25 years

10. Fever, endomyocarditis, polyarthritis are observed in

a) atherosclerosis

b) hypertension

c) coronary heart disease

d) rheumatism

**The standard answers:**

**Option 1**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | A |
| 2 | C |
| 3 | C |
| 4 | D |
| 5 | B |
| 6 | C |
| 7 | D |
| 8 | B |
| 9 | B |
| 10 | B |

**Option 2**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | D |
| 2 | D |
| 3 | D |
| 4 | B |
| 5 | А |
| 6 | D |
| 7 | А |
| 8 | C |
| 9 | C |
| 10 | D |

**List of abstract topics:**

1. Rheumatism, joint syndrome

2. Acute rheumatic fever

3. Rheumatism: etiology, pathogenesis, clinical manifestations.

4. Diagnosis of acquired heart defects

5. Congenital heart defects

6. Surgical treatment of heart defects

Practical training on a clinical basis

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**Topic 9** Acquired heart defects: stenosis and aortic valve insufficiency.

**Forms of ongoing monitoring of academic performance**

**-**письменный written survey;

-oral interview;

-the decision problem and situational tasks;

-practical skills development;

-testing.

**Assessment materials of the current control of academic performance**

**Questions for the written survey:**

**Option 1**

1. Mitral valve insufficiency: causes, hemodynamic disorders, complaints in the decompensation stage

2. Aortic stenosis: physical data.

Option 2

1. Mitral stenosis: causes, hemodynamic disorders, complaints in the decompensation stage.

2. Aortic valve insufficiency: physical data.

**Questions for the oral survey:**

1. Etiology of aortic malformations.

2. Violation of intracardiac hemodynamics in aortic stenosis and aortic valve insufficiency.

3. Complaints of patients with aortic malformations.

4. Examination and palpation data for aortic malformations.

5. Changes in the configuration of the heart in aortic malformations.

6. How to change the colors of the heart in aortic defects.

7. The mechanism of occurrence, the place of the best listening to noises in aortic malformations.

8. ECG and echocardiographic changes in aortic malformations.

**Test tasks:**

**Option 1**

1#Pulsation of the carotid arteries, synchronous with the apical shock, is observed in:

stenosis of the aortic mouth

mitral stenosis

+aortic valve

insufficiency tricuspid valve insufficiency

2 # Patient B. complains of shortness of breath, palpitations, hemoptysis with minor physical exertion. A history of frequent angina in childhood. This deterioration of the condition after another cold.

With an objective examination: acrocyanosis. With palpation, the apical push is weakened, limited, displaced inside, the symptom of "cat purring" is determined. At the right border of relative dullness of the heart is determined by the right edge of the sternum, the upper – level 2 rib to the left of the sternum, the left – in the 5th intercostal space 2 cm medially from the left mid-clavicular line. During auscultation of the heart: the rhythm of the "quail", diastolic murmur at the top of the heart. What kind of heart disease can you think of:

mitral insufficiency

aortic insufficiency

+stenosis of the mitral orifice

stenosis of the mouth of the aorta

3 # The symptom of Musset is observed in:

stenosis of the aortic mouth

mitral malformation

+aortic valve

insufficiency tricuspid valve

insufficiency tricuspid valve insufficiency

4 # Systolic murmur above the apex of the heart is characteristic of:

+mitral valve

insufficiency aortic valve insufficiency

mitral stenosis

aortic stenosis

5 # Amplification of the I tone at the apex of the heart (clapping) occurs in:

mitral valve

insufficiency aortic valve insufficiency

+mitral stenosis

aortic stenosis

6# In which heart defect is the "rhythm of the quail" heard:

mitral insufficiency

+with mitral foramen stenosis of

aortic insufficiency

7# The condition of the valvular apparatus of the heart better reflects:

laboratory diagnostics X-

ray examination

+ultrasound examination electrocardiography

8#What is the "quail rhythm": a

split of 1 tone;

+bifurcation of 2 tones (click of opening of the mitral valve);

changes in heart tones and systolic-diastolic murmur.

9# With auscultation of the heart, the tones are non-rhythmic, periodically the I tone is amplified, the heart rate is 91 beats per second.

the patient's pulse is irregular, the heart rate is 74 beats per minute. In the patient: extrasystole

+atrial fibrillation

A-B blockade.

10# What kind of noise occurs in the heart during the development of anatomical changes:

functional

+organic.

11#In the area of the apical push, sound phenomena are heard from the valve:

aortic;

+mitral;

pulmonary;

tricuspid.

12#When the pressure increases in the small circle of blood circulation, there is: the

emphasis of the second tone on the aorta;

the accent of the second tone on the pulmonary artery;

weakening of the second tone on the pulmonary artery;

weakening of the first tone at the top.

13#Patient position for best listening to systolic noise:

sitting on a chair;

+lying on your left side;

standing with your arms raised.

14 # Highlight auscultative symptoms related to aortic valve insufficiency:

systolic noise at the apex

+diastolic noise on the aorta

diastolic noise at the apex with presystolic amplification

Option 2

1 # Highlight auscultative symptoms related to aortic valve insufficiency:

systolic noise at the apex

+diastolic noise on the aorta

diastolic noise at the apex with presystolic amplification

2#Position of the patient for the best listening to systolic noise:

sitting on a chair;

+lying on your left side;

standing with your arms raised.

3#When the pressure increases in the small circle of blood circulation, there is: the

emphasis of the second tone on the aorta;

the accent of the second tone on the pulmonary artery;

weakening of the second tone on the pulmonary artery;

weakening of the first tone at the top.

4#In the area of the apical push, sound phenomena are heard from the valve:

aortic;

+mitral;

pulmonary;

tricuspid.

5# What kind of noise occurs in the heart during the development of anatomical changes:

functional

+organic.

6# heart auscultation tones spasmodic, I periodically amplified tone, heart rate 91 kick in

minute, pulse rate of the patient spasmodic, heart rate 74 beats per minute. In the patient: extrasystole

+atrial fibrillation

A-B blockade.

7#What is the "quail rhythm": a

split of 1 tone;

+bifurcation of 2 tones (click of opening of the mitral valve);

changes in heart tones and systolic-diastolic murmur.

8 # Pulsation of the carotid arteries, synchronous with the apical shock, is observed in:

stenosis of the aortic mouth

mitral stenosis

+ insufficiency of the aortic valves

insufficiency of the tricuspid valve

9#Patient B. complains of shortness of breath, palpitation, hemoptysis with minor physical exertion. A history of frequent angina in childhood. This deterioration of the condition after another cold.

With an objective examination: acrocyanosis. With palpation, the apical push is weakened, limited, displaced inside, the symptom of "cat purring" is determined. At the right border of relative dullness of the heart is determined by the right edge of the sternum, the upper – level 2 rib to the left of the sternum, the left – in the 5th intercostal space 2 cm medially from the left mid-clavicular line. During auscultation of the heart: the rhythm of the "quail", diastolic murmur at the top of the heart. What kind of heart disease can you think of:

mitral insufficiency

aortic insufficiency

+stenosis of the mitral orifice

stenosis of the mouth of the aorta

10 # The symptom of Musset is observed in:

stenosis of the aortic mouth

mitral malformation

+aortic valve

insufficiency tricuspid valve

insufficiency tricuspid valve insufficiency

11 # Systolic murmur above the apex of the heart is characteristic of:

+mitral valve

insufficiency aortic valve insufficiency

mitral stenosis

aortic stenosis

12 # Amplification of the I tone at the apex of the heart (clapping) occurs in:

mitral valve

insufficiency aortic valve insufficiency

+mitral stenosis

aortic stenosis

13# In which heart defect is the "rhythm of the quail" heard:

mitral insufficiency

+with mitral foramen stenosis of

aortic insufficiency

14# The state of the valvular apparatus of the heart better reflects:

laboratory diagnostics X-

ray examination

+ultrasound examination electrocardiography

**Solving situational problems:**

**Task # 1**

Pre-conscript Sh., 17 years old, does not complain to the commission. From the anamnesis, it is known that he often suffers from colds. On examination-asthenic build, height 182 cm, weight 65 kg, skin and mucous membranes of the usual color. The apical push is visible in the V intercostal space inside at 1.5 cm from the mid-clavicular line, with palpation of sufficient force, localized. With percussion of the heart (relative and absolute dullness) no pathology was detected. With auscultation of the heart, the tones are quite loud, rhythmic. At the top, a systolic murmur is heard. On the ECG-sinus arrhythmia with a heart rate of 65-80 per minute. The semi-vertical electrical axis of the heart. Violation of intraventricular conduction. Food. Aorta without features, D ± 19 mm (N-30 mm), aortic valve leaves intact, divergence in systole 18 mm. Left atrium 21 mm (N), right ventricle 20 mm( N), right atrium 33 mm( N), left ventricle 45 mm( N), pulmonary artery 16 mm( N). Mitral valve " M " - shaped, divergence in diastole sufficient-31 mm. The anterior leaf of the mitral valve sags into the cavity of the left atrium by 6-7 mm, regurgitation above the leaves of the mitral valve (++). What kind of heart disease are we talking about? Variants of the answer:

a) mitral valve insufficiency

b) mitral valve prolapse

c) stenosis of the mitral orifice.

Task # 2

During a routine check-up at the polyclinic, worker M., 32, did not make any complaints. From the anamnesis, it is known that in childhood he suffered a rheumatic attack. He was registered with a rheumatologist for 2 years, then in connection with the move, he was not registered, was not treated. He served in the army. I didn't consider myself sick. During the inspection – asthenic physique. The skin and mucous membranes are of the usual color, there is no edema. On palpation, there is an apical push in the V intercostal space on the left along the mid-clavicular line. With percussion of the heart – the right border of relative cardiac dullness without features, the left-in the IV intercostal space 5 cm from the left edge of the sternum, in the V intercostal space - along the mid-clavicular line. With auscultation, the heart rhythm is correct, the I tone at the apex is weakened, on the base without features. In the apical region, a systolic noise is clearly heard, occupying the entire systole, merged with the I tone. The noise is drawn to the Botkin point. After physical activity (20 squats) the noise increases. ECG-sinus rhythm, the electrical axis of the heart is not deviated. Local violation of atrial and intraventricular conduction. Initial signs of left ventricular hypertrophy. Food. Aorta without features, D ± 22 mm (N-30 mm), aortic valve leaves intact, divergence in systole 17 mm. Left atrium 29 mm (N), right ventricle 22 mm (N), right atrium 31 mm (N), pulmonary artery 17 mm (N), left ventricle 57 mm (N – 56 mm). The mitral valve is " M " - shaped, the divergence in the diastole is sufficient-30 mm. Mm. Pronounced regurgitation over the leaves of the mitral valve (+++, ++++), to the roof of the left atrium. What kind of heart disease are we talking about?

Possible answers:

a) mitral foramen stenosis

b) mitral valve prolapse

c) mitral valve insufficiency.

Task # 3

Patient K., 40 years old, complains of shortness of breath during physical exertion, periodic chest pains with radiation in the left arm, cough at night, swelling on the legs in the evening, weakness. For many years, since childhood, he suffers from rheumatism, has a heart defect. On examination-asthenic, "mitral butterfly" on the face, pasty shins, swelling of the feet. Apical shock is not visible, epigastric pulsation. The boundaries of relative cardiac dullness are expanded: on the right in the IV intercostal space by 1.5 cm outward from the right edge of the sternum, on the left in the II-III intercostal space along the mid-clavicular line. I tone at the apex is a clapping, diastolic noise with presystolic amplification. At the Botkin point – "quail rhythm" (three-part rhythm). At the base of the heart, the accent of the second tone is above the pulmonary artery, at the point of listening to the tricuspid valve-the tones are muted, a short systolic noise. In the lungs, weakened vesicular respiration, crepitation in the lower parts of the back. The liver protrudes 2 cm from under the edge of the costal arch, the edge is soft, painful on palpation. ECG. Sinus rhythm with a heart rate of 64 per minute. The electrical axis of the heart is deflected to the right. Signs of hypertrophy of the right and left atria. Blockade of the right bundle branch block. Signs of stress on the right ventricle. Food. Aorta without features, D ± 25 mm (N-30 mm), aortic valve leaves intact, divergence in systole 19 mm. The flow to the aorta is not accelerated, there is no regurgitation. The left atrium is 45 mm (N-40mm), the right atrium is 42 mm (N – 38mm), the right ventricle is 34-36 mm (N – 30mm), the walls of the right ventricle are thickened. Left ventricle – 50 mm (N-56 mm). The mitral valve is " P " - shaped, soldered along the commissures, the divergence in the diastole is reduced to 11 mm (N-19-32 mm), the transmitral flow is accelerated to 2.65 m/s (N – 1.0 m/s). The anterior wall of the mitral valve "slides" towards the interventricular septum. The area of the mitral foramen is 2.1 cm2. Tricuspid regurgitation ( ++ ,+++). The pressure in the pulmonary artery is 25 mm (N -23 mm). What kind of heart disease are we talking about? Possible answers:

a) mitral valve insufficiency

b) stenosis of the mitral orifice in the compensation stage

c) stenosis of the mitral orifice in the stage of decompensation.

Task # 4

Patient M., 47 years old, upon admission to the hospital, complains of periodic headaches, dizziness, compressive pain behind the sternum. Similar phenomena began to occur in the last few years, more often associated with the load. Two days ago, while working at the dacha, he lost consciousness. From the anamnesis, it is known that in childhood he often had sore throats. He is not registered, has not been examined. On examination, the correct physique, well-developed muscles of the shoulder girdle, active. The skin is a little pale, on the neck – "dance of the carotids", a symptom of Quincke and Musset. On examination of the thorax, a diffuse, lifting phonendoscope apical push in the VI intercostal space along the antero-axillary line is visible. The boundaries of relative cardiac dullness are shifted to the left in the IV intercostal space to the mid-clavicular line, in V-2 cm outside of the mid-clavicular line, in VI-along the antero-axillary line. With auscultation at the apex, the heart tones are rhythmic, muted, a short systolic murmur, gentle, is not carried out anywhere. At the base of the heart II, the tone on the aorta is weakened, diastolic noise. Blood pressure 160/50 mm Hg on both hands. ECG. Sinus rhythm with a heart rate of 84 per minute. The electrical axis of the heart is deflected to the left. Signs of hypertrophy of the left ventricle with signs of its overload. Food. Aorta without features, D ± 22 mm (N-30 mm), aortic valve leaves intact, divergence in systole 17 mm. Regurgitation over the valves of the aorta (++, +++). Left ventricle 63 mm (N-56 mm). Left atrium 23 mm (N). The right departments are not changed. Mitral valve "M" - shaped, regurgitation over the leaves of the mitral valve (++). What kind of heart disease are we talking about? Possible answers:

a) aortic stenosis

b) aortic valve insufficiency

c) mitral valve insufficiency.

Task # 5

Patient K., 72 years old, was taken to the trauma department with a fracture of the right humerus. During the examination by the therapist, he complains of headaches, dizziness, periodic pain behind the sternum with radiation in the left arm, which passes after taking nitroglycerin. On examination-hypersthenic build, pale skin. The apical push is visible to the eye in the IV intercostal space 2 cm outside of the left mid-clavicular line. In percussion, the boundaries of relative cardiac dullness are shifted to the left in the IV intercostal space to the mid-clavicular line, in the V – 2 cm outwards from the mid-clavicular line. With auscultation at the apex, the heart tones are rhythmic, muted, a short systolic murmur, gentle, is not carried out anywhere. At the base of the heart in the II intercostal space, a “systolic cat purr " is palpated, and here a rough systolic noise is heard, which is carried out on the carotid arthreria and in the interscapular space. II the tone on the aorta is weakened. Blood pressure is 90/80 mm Hg on both hands.

ECG. Sinus rhythm with a heart rate of 90 per minute. The electrical axis of the heart is deflected to the left. Signs of hypertrophy of the left ventricle with signs of its overload.

Food. The aorta is without features, D ± 22 mm (N-30 mm), the aortic valve flaps are thickened, the divergence in the systole is sharply reduced - 10 mm (N – 15-24 mm).the flow to the aorta is accelerated – 2.1 m / s (N-1.7 m / s). at the base of the right coronary sash – inclusions of calcium. The left ventricle 60 mm (N – 56 mm). Left atrium 23 mm (N). The right departments are not changed. Mitral valve "M" - shaped, regurgitation over the leaves of the mitral valve (+). What kind of heart disease are we talking about? Possible answers:

a) aortic insufficiency

b) mitral valve insufficiency

c) aortic stenosis.

Task # 6

Patient B., 19 years old, has been suffering from rheumatism since the age of 12. He is registered with a rheumatologist. During the medical examination, he complains of shortness of breath during exercise, compressive pain behind the sternum, weakness, fatigue. On examination, he looks younger than his age, asthenic. Apical push - in the V intercostal space at 1.5 cm inside of the mid-clavicular line, there is a "diastolic cat purr". In percussion, the boundaries of relative cardiac dullness are shifted to the left in the II and III intercostals by 2 cm outwards. At auscultation I, the tone at the apex is flapping, diastolic noise with presystolic amplification. At the Botkin point – "quail rhythm" (three-part rhythm). ECG. Sinus rhythm with a heart rate of 64 per minute. Increased load on the left atrium. Single supraventricular extrasystoles. Food. Aorta without features, D ± 25 mm (N-30 mm), aortic valve leaves intact, divergence in systole 19 mm. The flow to the aorta is not accelerated, there is no regurgitation. The left atrium is 50 mm (N-40 mm). Left ventricle – 50 mm (N-56 mm). The mitral valve is " P " - shaped, soldered along the commissures, the divergence in the diastole is reduced to 17 mm (N-19 mm), the transmitral flow is accelerated to 2.65 m/s (N – 1.0 m/s). The anterior wall of the mitral valve "slides" towards the interventricular septum. The area of the mitral foramen is 2.1 cm2. The pressure in the pulmonary artery is 20 mm (N). What kind of heart disease are we talking about? Possible answers:

a) mitral valve insufficiency

b) stenosis of the mitral orifice in the compensation stage

c) stenosis of the mitral orifice in the stage of decompensation.

Task # 7

Patient A., 43 years old, was admitted to the hospital with complaints of shortness of breath during exercise, attacks of suffocation at night, palpitations, swelling on the legs. She has been ill with rheumatism for 20 years, since 25 years they find a heart defect, she is registered. Deterioration of the condition for about 5 years. Disabled person of group 2. On examination-forced position (orthopnea), acrocyanosis on the background of pale skin, swelling of the feet and shins, epigastric pulsation, positive venous pulse. The boundaries of relative cardiac dullness are expanded: on the right in the IV intercostal space by 2 cm outward from the right edge of the sternum, on the left in the II-III-IV intercostal space along the mid-clavicular line. Vascular bundle of 6 mm. With auscultation of the heart, the rhythm is correct, the tones are muted, the systolic diastolic noise is at the top. The accent of the second tone on the pulmonary trunk, a rough systolic noise on the aorta. In the lungs, weakened vesicular respiration, small-bubbled wet wheezes in the lower parts of the back. The liver protrudes 2 cm from under the edge of the costal arch, the edge is soft, painful on palpation.

ECG. Sinus tachycardia with a heart rate of 100-120 per minute. The electrical axis of the heart is deflected to the right. Signs of hypertrophy of the right and left ventricles. Blockade of the right bundle branch block. Food. Aorta without features, D ± 25 mm (N-30 mm), aortic valve flaps are changed, thickened and soldered together, the discrepancy in the systole is 13 mm. The flow to the aorta is not accelerated, there is no regurgitation. The left atrium is 43 mm (N-40mm), the right atrium is 40 mm (N – 38mm), the right ventricle is 34 mm (N – 30mm), the walls of the right ventricle are thickened. Left ventricle-58 mm (N-56 mm). The mitral valve is " P " - shaped, soldered along the commissures, the divergence in the diastole is reduced to 13 mm (N-19 mm), the transmitral flow is accelerated to 2.65 m/s (N – 1.0 m/s). above the mitral valve flaps, regurgitation ( ++ ,+++). The pressure in the pulmonary artery is 25 mm (N -23 mm).

What kind of heart disease are we talking about? Variants of the answer:

a) concomitant mitral

b) aortic defect (stenosis with metalitalia)

c) combined mitral combined with stenosis of the mouth of the aorta.

The standard answers

No. 1-b (mitral valve prolapse)

No. 2-c (mitral valve insufficiency)

No. 3-b (mitral foramen stenosis in the decompensation stage)

No. 4-b (aortic valve insufficiency)

No. 5-b (aortic stenosis)

No. 6-b (mitral foramen stenosis in the compensation stage)

No. 7-b (combined mitral defect in combination with stenosis of the aortic mouth)

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**Topic 10** Basic gastric syndromes. Symptomatology of gastritis, gastric ulcer and duodenal ulcer, stomach cancer.

**Forms of current monitoring of academic performance:**

-testing;

-oral interview;

-the decision problem and situational tasks;

-practical skills development;

-abstract.

**Evaluation materials of the current control of academic performance.**

**Questions for the oral survey:**

1. Hyposecretory syndrome. Etiology. Clinical manifestations.

2. Hypersecretory syndrome. Etiology. Clinical manifestations.

3. Diagnostic methods for determining hypo-and hypersecretion.

4. The concept of "acute abdomen". Causes, clinical manifestations. Measures at the pre-hospital stage.

5. Esophageal, gastric, intestinal bleeding. Etiology, clinical signs. Diagnostic methods.

6. Symptomatology of gastric and intestinal dyspepsia.

7. Malabsorption syndrome. Etiology. Pathogenesis. Clinical manifestations. Coprological research.

8. Etiology and pathogenesis of gastritis. Classification, clinical picture, diagnostic methods.

9. Etiology and pathogenesis of gastric and duodenal ulcer.

10. The main syndromes of peptic ulcer disease with the localization of ulcers in the stomach and duodenum.

11. Complications of peptic ulcer disease (stenosis, bleeding, perforation of the ulcer, penetration of the ulcer into other organs, malignancy).

12. Diagnosis of peptic ulcer disease and basic principles of treatment.

13. Cancer of the stomach. Etiology. Pathogenesis (exogenous carcinogens, endogenous carcinogenic situations).

14. Clinical picture of stomach cancer. Diagnostic methods. The concept of clinical stages.

**Test tasks:**

**Option 1**

1. Production of antibodies to the lining cells of the gastric mucosa

occurs in

a) chronic gastritis type A

b) chronic gastritis type B

c) acute gastritis

d) chronic pancreatitis

2. The most informative method of diagnosis of gastroduodenitis

a) gastric probing

b) x-ray examination

c) ultrasound examination

d) endoscopic examination

3. In chronic gastritis with secretory insufficiency, there is

a) heartburn

b) acid belching

c) rotten belching

d) constipation

4. Seasonality of exacerbation is characteristic of

a) chronic colitis

b) chronic cholecystitis

c) cirrhosis of the liver

d) peptic ulcer disease

5. Early pain in the epigastric region occurs after eating for

a) 30 minutes

b) 2 hours

c) 3 hours

d) 4 hours

6. The degeneration of an ulcer into cancer is called

a) malignancy

b) penetration

c) perforation

d) pylorostenosis

7. Progressive weight loss is observed in

a) stomach cancer

b) chronic gastritis

c) chronic cholecystitis

d) peptic ulcer disease

8. Pain in the umbilical region is observed in chronic

a) colitis

b) pancreatitis

c) cholecystitis

d) enteritis

9. With chronic enteritis, feces are marked

a) tar-like

b) with an admixture of pure blood

c) plentiful, liquid

d) discolored

10. With inflammation of the sigmoid colon, the pain is localized in the area of

a) right hypochondrium

b) parotid

c) right iliac

d) left iliac

**Option 2**

1. Late, "hungry", nocturnal pain is characteristic of

a) chronic gastritis

b) gastric ulcer

c) duodenal ulcer

d) cirrhosis of the liver

2. The radiological symptom of "niche" is observed in

a) gastritis

b) peptic ulcer

c) stomach cancer

d) cholecystitis

3. Signs characteristic only of gastric bleeding

a) pallor, weakness

b) headache, dizziness

c) vomiting of "coffee grounds", tar-like stools

d) tachycardia. hypotension

4. To stimulate gastric secretion,

a) pentagastrin is used

b) vegetable oil

c) barium sulfate

d) magnesium sulfate

5. The last meal before gastric probing should be

a) in the evening, on the eve of the study

b) in the morning, on the eve of the study

c) in the afternoon, on the eve of the study

d) in the morning on the day of the study

6. Tar-like stools occur when bleeding from the intestine

a) 12-digit

b) colon

c) sigmoid

d) straight

7. Filling defect during radiography is characteristic of

a) gastritis

b) stomach cancer

c) stomach ulcers

d) ulcers of the 12-duodenum

8. For 3 days, iron-containing foods should be excluded from the diet when

preparation for

a) fecal occult blood analysis

b) duodenal probing

c) gastric probing

d) gastric radiography

9. When preparing the patient for the analysis of feces for hidden blood from nutrition

exclude

a) semolina porridge

b) milk

c) meat

d) bread

10. Irrigoscopy is a study

a) x-ray

b) x-ray contrast

c) ultrasound

d) endoscopic

**Response standards:**

**Option 1**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | А |
| 2 | D |
| 3 | C |
| 4 | D |
| 5 | А |
| 6 | А |
| 7 | А |
| 8 | А |
| 9 | C |
| 10 | D |

**Option 2**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | c |
| 2 | b |
| 3 | c |
| 4 | А |
| 5 | А |
| 6 | А |
| 7 | b |
| 8 | А |
| 9 | c |
| 10 | b |

**Texts of situational tasks (typical):**

**Task 1**

Upon admission to the hospital, the patient complained of aversion to food, especially meat, unpleasant sensations in the epigastrium, weight loss for 2 months by 8 kg, weakness, reduced performance, about 3 weeks in the evenings subfebrile temperature. From the anamnesis, it is known that the disease began about six months ago without any apparent reason for the patient with unpleasant sensations in the epigastrium. I was not examined, I was treated independently with No-shpa tablets. An objective examination revealed that the patient is emaciated, the skin turgor is reduced, the skin and mucous membranes are pale. The tongue is dry, covered with a white coating, an unpleasant smell from the mouth. The abdomen is of the usual shape, the anterior abdominal wall is thinned. With superficial palpation, there is pain in the epigastric region, and with deep palpation in the stomach, a seal up to 5 cm in diameter is clearly palpated, dense, sedentary, painful, the liver is not palpated. Palpation of the intestine revealed no pathology. The study of gastric juice revealed the absence of free hydrochloric acid, combined with the absence of pepsin and the presence of lactic acid. When roentgenoscopy of the stomach is noted by the large curvature of the "filling defect", the lack of accommodation of the stomach. Your diagnosis?

Answer: cancer of the stomach.

Task 2

Patient P. complains of daily pain of a cutting nature in the epigastrium, appearing 2-3 hours after eating and even at night, heartburn, acid belching. Sometimes there is vomiting of acidic contents, which brings relief. Stool – once every 3 days. From the anamnesis, it is known that he considers himself ill for about three years, the onset of the disease is associated with nervous stress. Notes the deterioration of the condition every fall and spring. In an objective study, the consciousness is clear, the physique is normosthenic, the diet is normal. The skin is clean, of normal color, the tongue is overlaid with a gray-white coating. The abdomen is soft, with deep palpation is determined by tenderness in the region of the pylorus. The liver is not palpable. On the part of the intestine, no pathology was detected during palpation. Study of gastric juice: Fasting portion: quantity-160 ml; total acidity-70; free. NS1-60. Basal secretion: time-1 h.; quantity-356 ml; total acid content-65-105; free. NS1 — 48-86. Maximum secretion (after the introduction of a decoction of dry cabbage): time-1 h.; quantity-320 ml; total acidity-78-115; free. NS1 - 60-92. The test for lactic acid content is negative. Content: gray color. There is no smell or impurity. Leu in a significant amount. Cylindrical epithelium up to 36 in the field of view. Eg fresh, up to 10 in the field of view. Mucus in large quantities. During the X-ray examination, a "niche"was found in the area of the bulb 12-P. K. With EGDS-hyperemia and swelling of the mucosa of the bulb 12-P. K., a defect of the mucosa with a diameter of up to 2 cm. What should the doctor think about?

Answer: peptic ulcer of the stomach and duodenum, ulcer of the bulb 12-P. k

Task 3

A patient was admitted to the therapeutic department, who complained of a feeling of heaviness and swelling in the epigastrium, weight loss, nausea, frequent vomiting. For the study, the patient's vomit was delivered to the laboratory, which had an unpleasant smell of rotten eggs, contained air bubbles, remnants of food eaten a day ago, and a lot of mucus. Total acidity – 10 titration units, free-0 titration units. What kind of stomach damage should I think about in this case?

Answer: stomach cancer, achlorhydria, stenosis of the pylorus. By the copious amount of vomit with the content of food in them, eaten a few days ago, you can suspect the stenosis of the pylorus. This diagnosis is confirmed by the patient's complaints of heaviness, a feeling of fullness in the stomach. Pyloric stenosis develops with scarring of a duodenal ulcer or stomach cancer. The absence of hydrochloric acid in the stomach contents indicates stomach cancer.

Task 4

Patient I. was subjected to duodenal probing as part of the examination of the gastrointestinal tract. The following data were obtained: Bile “And” Transparency full Color Golden yellow Leukocytes 2 – 3 in the field of view of Bile “In” Transparency full Color dark green Leukocyte 5 – 10 in sight Bile “With” Transparency full Color Golden yellow Leukocytes 1 - 2 in sight How do you assess the results? Is there a lesion of the biliary tract in this patient?

Answer: no

Task 5

What pathology is discussed in the following clinical case: acute intense cramping pain in the left iliac region and in the perineum. It is accompanied by the urge to defecate, after which a small amount of mucus is released. 1) an attack of bile colic 2) damage to the small intestine (enteritis) 3) damage to the pancreas (inflammation) 4) + damage to the distal colon 5) damage to the pyloroduodenal zone.

Task 6

What pathology is discussed in the following clinical case: an attack of acute, colic-like, ("morphine") pain in the right hypochondrium and epigastrium with radiation up and to the right. Vomiting does not bring relief. Typical constipation, alternating with diarrhea, steatorrhea. 1) +an attack of biliary colic 2) lesions of the small intestine (enteritis) 3) damage to the pancreas (inflammation) 4)damage to the distal colon 5) damage to the pyloroduodenal zone

**Interpretation of laboratory data: analysis of gastric contents, duodenal contents**

**Task # 1**

The following data were obtained during fractional probing in patient A:

Trial breakfast-cabbage

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color | 20  8  0  8  no color | 10  18  10  6  blue | 50  26  14  12  blue | 20  32  24  8  pale blue | 15  48  30  18  no color | 30  50  23  16  no color | 25  50  26  14  no color | 20  60  28  12  no color | 22  60  30  12  no color | Single nuclei of white blood  cells.  The epithelium is cylindrical,  flat, single, and in  small groups. |

debit-hour HCI 2.82-meq/hour;

free HCI flow rate-1.73 meq / hour;

debit-hour of the associated HCI - 1.27 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 20 mg.

Are there any signs of stomach damage in this case?

**Task # 2**

Patients B and C had epigastic pain a few months ago, 30 to 60 minutes after eating, acid belching, heartburn, and intermittent vomiting. They were sent to the hospital for examination for the first time. Palpation revealed a slight pain in the epigastric region.

When examining the gastric contents, the following changes were found:

**Examination of the gastric contents of patient B**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  mucos | 80  28  16  12  no color + | 10  21  15  6  blue  + | 100  64  36  28  blue  + | 60  78  42  36  blue  + | 40  96  58  38  blue  + | 60  88  60  28  Pale blue.  + | 30  84  75  9  no color + | 40  84  59  25  no color  + | 50  74  49  25  no color  + | White blood cells, a  significant  amount.  Gastric epithelium  accumulations. |

debit-hour HCI 15.13 meq / hour;

debit-hour of free HCI 8.55 meq / hour;

debit-hour of the associated HCI 6.54 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 70 mg

**Examination of the gastric contents of the patient C**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 mn | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  mucos  blood | 120  36  20  16  no color  +  + | 10  20  12  8  blue  +  + | 120  58  36  22  blue.  +  + | 80  59  42  17  blue.  + | 50  74  54  20  blue.  + | 60  77  56  21  blue  + | 40  120  85  35  Pale blue  + | 30  131  90  41  Pale blue  .  + | 50  126  85  41  Pale blue  + | Red blood cells in  groups.  Gastric epithelium  accumulations.  White blood cell nuclei. |

debit-hour HCI 15.58 meq / hour;

debit-hour of free HCI 10.50 meq / hour;

debit-hour of the associated HCI 5.08 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 65 mg.

What diseases can you think of from these tests?

**Task # 3**

Patients K and N. were hospitalized in the ward. Both complain of dull, constant pain in the epigastrium, which increases after eating, poor appetite, and weight loss. They are ill for about 5 years. The doctor prescribed gastric probing for the purpose of examination of the patients. The following data were obtained:

**Examination of the gastric contents of the patient K**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  Lactic acid  Blood  Bile | -  -  -  -  -  -  -  - | 20  2  0  2  blue.  +  + | 40  7  0  7  Pale blue  +  + | 9  5  0  5  no color  +  + | 6  6  0  6  no color  +  + | 7  6  0  6  no color  +  +  + | 3  5  0  5  Pale pink.  +  +  + | 3  4  0  4  Pale pink.  +  +  + | 2  3  0  3  Pale pink.  +  +  + | Red blood cells.  Sticks of lactic acid  fermentation.  White blood cell nuclei.  Sarcinae.  Yeast fungi |

debit-hour HCI 0.42 meq / hour;

debit-hour of free HCI --;

debit-hour of bound HCI 0.42 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 1 mg.

**Examination of the gastric contents of patient N**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color | -  -  -  -  - | 12  4  0  4  blue | 25  8  0  8  Pale blue | 10  5  0  5  No color | 6  6  0  6  No color | 8  4  0  4  yellow | 4  3  0  3  No color | 3  2  0  2  No color |  | White blood cells in a significant amount.  Single red blood cells. Epithelial cells  the cells are unchanged. |

Rennet enzyme in 1:10 dilution not detected HCI

flow rate 0.53 meq / h;

debit-hour of free HCI -;

debit-hour of bound HCI 0.53 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 0 mg.

What diseases can you think of based on the analysis of gastric juice?

**Task # 4**

Upon admission to the hospital, the patient complained of aversion to food, especially meat, unpleasant sensations in the epigastrium, weight loss for 2 months by 8 kg, weakness, reduced performance, about 3 weeks in the evenings subfebrile temperature. From the anamnesis, it is known that the disease began about six months ago without any apparent reason for the patient with unpleasant sensations in the epigastrium. I was not examined, I was treated independently with No-shpa tablets. Objective examination revealed that the patient is emaciated, the skin turgor is reduced, the skin and mucous membranes are pale. The tongue is dry, covered with a white coating, an unpleasant smell from the mouth. The abdomen is of the usual shape, the anterior abdominal wall is thinned. With superficial palpation, there is pain in the epigastric region, and with deep palpation in the stomach, a seal up to 5 cm in diameter is clearly palpated, dense, sedentary, painful, the liver is not palpated. Palpation of the intestine revealed no pathology.

The study of gastric juice revealed the absence of free hydrochloric acid, combined with the absence of pepsin and the presence of lactic acid. When roentgenoscopy of the stomach is noted by the large curvature of the "filling defect", the lack of accommodation of the stomach. Your diagnosis?

**Task # 5**

Patient P. complains of daily pain of a cutting nature in the epigastrium, appearing 2-3 hours after eating and even at night, heartburn, acid belching. Sometimes there is vomiting of acidic contents, which brings relief. Stool – once every 3 days. From the anamnesis, it is known that he considers himself ill for about three years, the onset of the disease is associated with nervous stress. Notes the deterioration of the condition every fall and spring. In an objective study, the consciousness is clear, the physique is normosthenic, the diet is normal. The skin is clean, of normal color, the tongue is overlaid with a gray-white coating. The abdomen is soft, with deep palpation is determined by tenderness in the region of the pylorus. The liver is not palpable. On the part of the intestine, no pathology was detected during palpation. Study of gastric juice:

The dose on an empty stomach: the number — 160 ml; total acidity — 70; FL. NS1-60. Basal secretion: time-1 h.; quantity-356 ml; total acidity-65-105; free. NS1 — 48-86. Maximum secretion (after the introduction of a decoction of dry cabbage): time-1 h.; quantity-320 ml; total acidity-78-115; free. NS1 - 60-92. The test for lactic acid content is negative. Content: gray color. There is no smell or impurity. Leu in a significant amount. Cylindrical epithelium up to 36 in the field of view. Eg fresh, up to 10 in the field of view. Mucus in large quantities.

During the X-ray examination, a "niche"was found in the area of the bulb 12-P. K. With EGDS-hyperemia and swelling of the mucosa of the bulb 12-P. K., a defect of the mucosa with a diameter of up to 2 cm. What should the doctor think about?

**Task # 6**

A patient was admitted to the therapeutic department, who complained of a feeling of heaviness and swelling in the epigastrium, weight loss, nausea, frequent vomiting.

For the study, the patient's vomit was delivered to the laboratory, which had an unpleasant smell of rotten eggs, contained air bubbles, remnants of food eaten a day ago, and a lot of mucus. Total acidity – 10 titration units, free-0 titration units.

What kind of stomach damage should I think about in this case?

**Task # 7**

Duodenal probing was performed on the patient and in the order of examination of the gastrointestinal tract. The following data was received:

Bile "A"

Transparency Full

Color golden yellow

White blood cells 2-3 in the field of vision

Bile "B"

Transparency Full

Color dark green

White blood cells 5-10 in the field of vision

Bile "C"

Transparency Full

Color golden yellow

White blood cells 1-2 in the field of vision

How do you assess the result presented above? Is there a lesion of the biliary tract in this patient?

Task # 8

Patients with K and L periodically have paroxysmal pain in the right hypochondrium, accompanied by jaundice staining of the skin and mucous membranes, discolored feces and urine that has the color of “beer". During the survey, the following data were obtained:

|  |  |  |
| --- | --- | --- |
|  | Patient К | Patient L |
| Transparency  Colour  White blood cells  Mucus  Colour  White blood cells  Crystals  Mucus  Giardia  Colour  Transparency  Crystals  Mucus | Bile “A "  cloudy  light yellow  cover the entire field of view a  significant amount  Bile “B "  dark olive  cover the entire field of view of  cholesterol in large  quantities  many  no  Bile “C "  light yellow  normal  cholesterol in large amounts  the quantity is a  lot | flakes  light yellow  40-50 in the field of view a  significant amount  dark olive  cover the entire field of view  cholesterol, cover the entire field of  view  found  golden yellow  cloudy a  little |

What diagnosis will you make for these patients?

Task # 9

Patients M and N, who are being treated in the therapeutic department, had complaints of pain in the right hypochondrium with radiation to the right shoulder and shoulder blade, which worsened after eating fatty and spicy food, accompanied by fever, nausea and vomiting with bile.

As a routine examination, he conducted a study of the duodenal contents; the following results were obtained:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Patient М | | Patient Н |
| Colour  White blood cells  Mucus  Transparency  Colour  White blood cells  Mucus  Giardia  Прозрачность  Цвет  Лейкоциты  Слизь | Bile “A”  Golden-yellow  2 – 3 in the field of view  no  Bile “B "  cloudy  dark green  20-30 in the field of view of  flakes, a significant amount  there is  Bile “C "  cloudy  golden yellow  1-2 in the field of view a little  bit | yellow  30-40 in the field of view  moderate  muddy with flakes of  dark green  cover the entire field  -  -  cloudy  yellow up  to 40 in the field of view there  is | |

What kind of diseases you can think of, with such data?

Standards of responses to situational tasks

Task # 1

On an empty stomach, there is a small amount of juice in the stomach (no more than 50 ml), with low figures of total acidity. After a trial breakfast, the total and free acidity does not exceed the norm. There is a normal evacuation from the stomach. Microscopy revealed individual epithelial cells and the nuclei of white blood cells.

Thus, in this case, the study of gastric juice pathology in patient A was not revealed.

Task # 2

The obtained tests of gastric juice in patients B and C have a lot in common. So, there is hypersecretion on an empty stomach (the amount of juice is more than 50 ml). The total and free acidity in individual portions exceeds the norm (60 and 40 units, respectively). However, some differences are also revealed. So, the patient's evacuation from the stomach is somewhat slowed down (the staining of gastric juice disappears only after 1.5 hours, against 1 hour). In all portions there is an admixture of blood (which indicates gastric bleeding). This is also confirmed by the detection of red blood cells during microscopic examination.

This combination of hypersecretion, hyperacid state, and blood admixture in the gastric contents is characteristic of peptic ulcer disease.

In patient B, in addition to the above changes, a lot of mucus, white blood cells, and gastric epithelium were found. The combination of hypersecretion, hyperchlorhydria, and inflammatory changes is characteristic of chronic gastritis with increased secretory function.

Task # 3

In both patients, hyposecretion was detected – there is no gastric juice on an empty stomach, and after a trial breakfast, the amount of juice is very small (less than 50 ml). The total acidity is reduced, and the free one is absent (achlorhydria). Usually, it is possible to finally judge the possibility of producing hydrochloric acid only after conducting a histamine test. The evacuation of the stomach is also accelerated (after 45 minutes, the color of the stomach contents disappears).

No rennet was found in patient H, indicating achilia. Microscopy of the gastric contents revealed a significant number of white blood cells, not altered epithelial cells, which indicates an inflammatory process in the stomach. Thus, the patient has evidence in favour filchenkova gastritis.

In patient K, lactic acid and blood were found in the gastric contents. Microscopy revealed no data for the inflammatory process, but various microorganisms were found. Normally, they are not present, but they appear in the absence of the bactericidal action of hydrochloric acid. The data obtained from him is suspicious for stomach cancer, as there are signs of bleeding, which in this situation may be due to the disintegration of the tumor tissue.

Task # 4

Cancer of the stomach.

Task # 5

Peptic ulcer: ulcer of the bulb of the 12-p. intestine.

Task # 6

By the copious amount of vomit with the content of food in them, eaten a few days ago, you can suspect the stenosis of the pylorus. This diagnosis is confirmed by the patient's complaints of heaviness, a feeling of fullness in the stomach. Pyloric stenosis develops with scarring of a duodenal ulcer or stomach cancer. The absence of hydrochloric acid in the stomach contents indicates stomach cancer.

Task # 7

All portions of bile have a characteristic color, are transparent, and contain single white blood cells. In the portion " B "there are always a few more white blood cells than in the portions" A " and "C", since the cystic bile is more concentrated. Pathological impurities (mucus, salt crystals, parasites) are absent in them.

Based on this, it can be concluded that the patient has a normal bile composition, and therefore there is no damage to the bile ducts.

Task # 8

Patient K has a lot of white blood cells in all portions, which indicates an inflammatory process in the gallbladder and bile ducts. In the gallbladder bile and the portions of the “C” contains a lot of cholesterol crystals, which indicates calculous character cholecysto-cholangitis.

In patient L, pathological changes were detected in portions " A " and "B". Due to the fact that the contents of portion " A " do not have a decisive diagnostic value.

values can be considered that the inflammatory process is localized in the gallbladder. In addition, a portion of " B " contains a lot of cholesterol crystals and giardia. Consequently, calculous cholecystitis of giardiasis etiology takes place.

Task # 9

In patient M, there are pathological changes only in the portion "B", that is, in the bubble portion. Bile contains a lot of white blood cells, mucus in the form of flakes, which indicates an inflammatory process in the gallbladder. The presence of giardia in it indicates the etiological factor of this inflammation (giardial cholecystitis).

In patient H, large amounts of white blood cells and mucus were found in all portions. Based on these data, it is possible to think about the presence of cholecystitis in the patient in combination with cholangitis.

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**Topic 11.** The main hepatic syndromes: jaundice (parenchymal, mechanical, hemolytic), portal hypertension, hepatolienal syndrome, hepatic insufficiency (hepatic coma).

**Forms of ongoing monitoring of academic performance:**

**-testing;**

**-oral interview;**

**-the decision problem and situational tasks;**

**-the development of practical skills.**

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

**Option 1**

1. Exacerbation of chronic pancreatitis provokes

a) ARVI, hypothermia

b) intake of fatty foods, alcohol

c) intake of protein foods, smoking

d) fatigue, stress

2. The shingling nature of abdominal pain is observed in

a) gastritis

b) hepatitis

c) pancreatitis

d) cholecystitis

3. In chronic pancreatitis, there are syndromes

a) anemic, hyperplastic

b) painful, dyspeptic

c) hypertensive. edematous

d) hypertensive, nephrotic

4. Complication of chronic pancreatitis

a) gallstone disease

b) diabetes mellitus

c) cirrhosis of the liver

d) peptic ulcer disease

5. In pancreatitis, the blood test shows

a) an increase in amylase

b) increase in protein

c) decrease in amylase

d) decrease in cholesterol

6. The occurrence of cirrhosis of the liver can lead to

a) chronic gastritis

b) chronic colitis

c) chronic hepatitis

d) peptic ulcer disease

7. The main cause of post-necrotic cirrhosis of the liver

a) alcoholism

b) chronic viral hepatitis

c) chronic cholecystitis

d) chronic pancreatitis

8. Alcoholism leads to the development of cirrhosis of the liver

a) biliary

b) portal

c) postnecrotic

9. The expansion of the esophageal veins develops with

a) gastritis

b) colitis

c) cholecystitis

d) cirrhosis of the liver

10. The "Jellyfish head" symptom is characteristic of

a) gastritis

b) pancreatitis

c) cirrhosis of the liver

d) peptic ulcer disease

11. "Vascular asterisks" on the upper part of the trunk are characteristic of

a) pancreatitis

b) cholecystitis

c) cirrhosis of the liver

d) peptic ulcer disease

12. A sign of portal hypertension

a) ascites

b) atrophy of the papillae of the tongue

c) jaundice

d) erythema of the palms

13. Ascites are characteristic of

a) colitis

b) pancreatitis

c) cirrhosis of the liver

d) enteritis

14. Complication of cirrhosis of the liver

a) esophageal bleeding

b) perforation of the stomach

c) penetration

d) pyloric stenosis

15. Preparation of the patient for abdominal puncture

a) empty the bladder

b) wash the stomach

c) put a cleansing enema

d) put a siphon enema

**Option 2**

1. In chronic pancreatitis, feces

a) tar-like

b) greasy

c) bloody

d) discolored

2. The presence in the feces undigested muscle fibers is

a) amylacea

b) creatore

c) melena

d) steatorrhea

3. The presence in the feces of droplets of neutral fat is

a) amylacea

b) creatore

c) melena

d) steatorrhea

4. The main cause of chronic hepatitis

a) hepatitis A virus

b) hepatitis B virus

c) E. coli

d) enterococcus

5. The main symptoms of chronic hepatitis

a) jaundice, hepatomegaly

b) weakness, malaise

c) headache, nausea

d) flatulence, diarrhea

6. Jaundice develops in

a) viral hepatitis

b) chronic colitis

c) chronic enteritis

d) peptic ulcer disease

7. With hepatitis, jaundice develops

a) hemolytic

b) mechanical

c) parenchymal

8. Preparation of the patient for ultrasound of the abdominal cavity

a) put an oil enema

b) put a siphon enema

c) wash the stomach

d) perform on an empty stomach

9. For the diagnosis of chronic hepatitis,

a) gastric probing

b) irrigoscopy

c) colonoscopy

d) radioisotope examination is performed

10. After abdominal puncture, the patient's abdomen is left tight

towel for the prevention of

a) hypertensive crisis

b) brain hemorrhage

c) fainting

d) pulmonary edema

11. With hypertonic-hyperkinetic type of dyskinesia

the biliary tract is observed

a) sharp pain in the right hypochondrium

b) sharp pain in the left hypochondrium

c) aching pain in the right hypochondrium

d) aching pain in the left hypochondrium

12. In hypotonic-hypokinetic type of dyskinesia

the biliary tract is marked by

a) sharp pain in the right hypochondrium

b) sharp pain in the right iliac region

c) aching pain in the right hypochondrium

d) aching pain in the right iliac region

13. The occurrence of cirrhosis of the liver can lead to

a) chronic gastritis

b) chronic colitis

c) chronic hepatitis

d) peptic ulcer disease

14. The main cause of post-necrotic cirrhosis of the liver

a) alcoholism

b) chronic viral hepatitis

c) chronic cholecystitis

d) chronic pancreatitis

15. Alcoholism leads to the development of cirrhosis of the liver

a) biliary

b) toxic

c) portal

d) postnecrotic

**Response standards:**

**Option 1**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | b |
| 2 | c |
| 3 | b |
| 4 | b |
| 5 | a |
| 6 | c |
| 7 | a |
| 8 | c |
| 9 | d |
| 10 | c |
| 11 | c |
| 12 | a |
| 13 | c |
| 14 | a |
| 15 | a |

**Option 2**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | b |
| 2 | b |
| 3 | d |
| 4 | b |
| 5 | a |
| 6 | a |
| 7 | c |
| 8 | d |
| 9 | d |
| 10 | b |
| 11 | a |
| 12 | c |
| 13 | c |
| 14 | a |
| 15 | c |

**Questions for the oral survey**

1. Etiology and pathogenesis of jaundice (hemolytic, parenchymal, mechanical). Features of the violation of pigment metabolism.

2. Portal hypertension syndrome. Pathogenesis, clinical manifestations.

3. Hepato-lienal syndrome. The concept, clinical manifestations, changes in the composition of blood.

4. The syndrome of liver failure. Etiology, pathogenesis, clinical picture, features of metabolic disorders.

**Texts of situational tasks:**

**Task 1**

The patient R., 33 years old, had catarrhal phenomena, headaches, and subfebrile fever for a week. A day ago, there was jaundice of the sclera, dark urine. In the blood test: direct bilirubin 27.4 mmol/l, indirect bilirubin 51.3 mmol/l. The urine is dark brown, cloudy, the reaction to bilirubin is sharply positive. Determine the type of jaundice, the stage, and the pathogenesis of the disorders. One correct answer: 1. mechanical 2.+parenchymal 3. hemolytic

**Task 2**

In the patient L.,48 years old, hyperbilirubinemia was determined - direct bilirubin is 16.7 mmol/L, bilirubinuria, cholalemia, holaluria, acholia, hypercholesterolemia. Determine the type of jaundice that is characterized by these deviations One correct answer: 1.+mechanical 2. Parenchymal 3. Hemolytic

**Task 3**

In a 28-year-old patient, the following changes were detected: hyperbilirubinemia-indirect bilirubin 28.3 mmol / l, urobilinogenemia, stercobilin-and urobilinogenuria 15.48 mmol / day, hypercholic feces. Determine the type of jaundice that is characterized by these disorders. 1. mechanical 2. parenchymal 3. +hemolytic

**Task 4**

In patient T., rapidly increasing jaundice joined the long-existing dyspeptic syndrome. Clinical and laboratory examination revealed: the liver is enlarged, the gallbladder is palpable. The blood contains 342 mmol / l of bilirubin, the reaction with Ehrlich diazoreactive is direct . In the urine, bilirubin is determined in large quantities . The feces are discolored . Question. Determine the Type of jaundice One Correct Answer: 1.+mechanical 2. parenchymal 3. hemolytic

**Task 5**

Duodenal probing was performed on the patient and in the order of examination of the gastrointestinal tract. The following data was received:

Bile " A”

Full transparency

Color golden yellow

White blood cells 2-3 in the field of vision

Bile “B”

Full transparency

Color dark green

White blood cells 5-10 in the field of vision

Bile “C”

Full transparency

Color golden yellow

White blood cells 1-2 in the field of vision

How do you assess the result presented above? Is there a lesion of the biliary tract in this patient?

Answer: All portions of bile have their characteristic color, are transparent, and contain single white blood cells. In the portion " B "there are always a few more white blood cells than in the portions" A " and "C", since the cystic bile is more concentrated. Pathological impurities (mucus, salt crystals, parasites) are absent in them.

Based on this, it can be concluded that the patient has a normal bile composition, and therefore there is no damage to the bile ducts.

**Task 6**

Patients with K and L periodically have paroxysmal pain in the right hypochondrium, accompanied by jaundice staining of the skin and mucous membranes, discolored feces and urine that has the color of “beer". During the survey, the following data were obtained:

|  |  |  |
| --- | --- | --- |
|  | Patient К | Patient L |
| Transparency  Colour  White blood cells  Mucus | Bile “A "  cloudy  light yellow  cover the entire field of view a  significant amount | flakes  light yellow  40-50 in the field of view a  significant amount |
| Colour  White blood cells  Crystals  Mucus  Giardia | Bile “B "  dark olive  cover the entire field of view of  cholesterol in large  quantities  not much | dark olive  cover the entire field of view  cholesterol, cover the entire field of  view  found |
| Colour  Transparency  Crystals  Mucus | Bile “C "  light yellow  normal  cholesterol in large amounts  the quantity is a lot | golden yellow  cloudy a  little |

What diagnosis will you make for these patients?

Answer: Patient K has a lot of white blood cells in all portions, which indicates an inflammatory process in the gallbladder and bile ducts. In the gallbladder bile and the portions of the “C” contains a lot of cholesterol crystals, which indicates calculous character cholecysto-cholangitis. In patient L, pathological changes were detected in portions " A " and "B". Due to the fact that the contents of the portion “A”does not have a decisive diagnostic value, it can be assumed that the inflammatory process is localized in the gallbladder. In addition, a portion of " B " contains a lot of cholesterol crystals and giardia. Consequently, calculous cholecystitis of giardiasis etiology takes place.

Task 7

Patients M and N, who are being treated in the therapeutic department, had complaints of pain in the right hypochondrium with radiation to the right shoulder and shoulder blade, which worsened after eating fatty and spicy food, accompanied by fever, nausea and vomiting with bile. As a routine examination, he conducted a study of the duodenal contents; the following results were obtained:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Patient М | | Patient Н |
| Colour  White blood cells  Mucus  Transparency  Colour  White blood cells  Mucus  Giardia  Transparency  Colour  White blood c | Bile “A”  Golden-yellow  2 – 3 in the field of view  no  Bile “B "  cloudy  dark green  20-30 in the field of view of  flakes, a significant amount  there is  Bile “C "  cloudy  golden yellow  1-2 in the field of view a  little | yellow  30-40 in the field of view  moderate  muddy with flakes of  dark green  cover the entire field  -  -  cloudy  yellow up  to 40 in the field of view there  is | |

What kind of diseases you can think of, with such data?

Answer: Patient M has pathological changes only in the portion "B", that is, in the bubble portion. Bile contains a lot of white blood cells, mucus in the form of flakes, which indicates an inflammatory process in the gallbladder. The presence of giardia in it indicates the etiological factor of this inflammation (giardial cholecystitis). In patient H, large amounts of white blood cells and mucus were found in all portions. Based on these data, it is possible to think about the presence of cholecystitis in the patient in combination with cholangitis.

Interpretation of laboratory results: biochemical blood test (jaundice) Blood

test N 1

Patient Chaliew N. X.

Bilirubin according to Iendrashek, indirect

reaction 16 mmol/l

glucose tolerance test on an empty

stomach-4.5 mmol / l

after 120 / - 5.6 mmol/l

ALT – 0.4 mmol/l

AST - 0.2 mmol / l

aldolase-0.1 mmol/(sec.l)

lactate dehydrogenase – 2.0 mmol/l

alkaline phosphotase-1.4 mccat/l

cholesterol-5.0 mmol/L blood

albumin-58.5 %

fibrinogen-3 g/l

sulem sample-1.8 ml

thymol sample – 3 units.

urinalysis

Bilirubin-otrits.

Urobilin-otrits.

fecal analysis

normal-colored feces

the Schmidt reaction is positive.

Answer: no pathology

Blood test N 2

Patient Chebotarev I. V.

Bilirubin according to Iendrashek:

general-65.0 mmol/l

indirect – 20.0 mmol/l

direct-45.0 mmol/l

glucose tolerance test on an empty

stomach-5.6 mmol / l

after 120 / - 10.0 mmol/l

ALT – 0.8 mmol/l

AST-0.6 µmol / l

aldolase-0.15 µmol/(sec. l) lactate

dehydrogenase-4.5 µmol/l

alkaline phosphotase-0.15 mccat/l

cholesterol-4.0 mmol/l

blood albumins – 50 %

fibrinogen-1.8 g/l

sulem sample-4.0 ml

thymol sample – 7 units.

urinalysis

Bilirubin-will put.

Urobilin-put it down.

fecal analysis

There are traces of stercobilin in the feces

Answer: parenchymal jaundice.

Blood test N 3

Patient Petrov K. S.

Bilirubin according to Iendrashek:

total-215.0 mmol / l

direct-35.0 mmol/l

indirect-180.0 mmol/l

glucose tolerance test on an empty

stomach-5.4 mmol / l

after 120 / - 8.8 mmol/l

ALT – 0.75 mmol/l

AST – 0.52 mmol/l

aldolase-0.17 µmol/(sec. l) lactate

dehydrogenase – 5.2 µmol/l

alkaline phosphotase-0.7 mccat/l

cholesterol-3.8 mmol / l blood

albumins-49 %

fibrinogen-1.7 g/l

sulem sample – 3.8 ml

thymol sample-8 units.

urinalysis

Bilirubin-will put.

Urobilin-put it down.

fecal analysis

There are traces of stercobilin in the feces

Answer: parenchymal jaundice.

**Blood test N 4**

Patient Batrakova L. I.

Bilirubin according to Iendrashek, direct

reaction 68 mmol/l

glucose tolerance test on an empty

stomach-4.2 mmol / l

after 120 / - 5.3 mmol/l

ALT – 0.3 mmol/l

AST – 0.2 mmol / l

aldolase-0.07 mmol/(sec. l) lactate

dehydrogenase – 0.9 mmol/l

alkaline phosphotase-3.4 mccat/l

cholesterol-6.2 mmol / l

albumins-58 %

fibrinogen-2 g / l

sulem sample-1.8 ml

thymol sample – 4 units.

urinalysis

Bilirubin-positive.

Urobilin – negative.

fecal analysis

Schmidt's reaction to

stercobilin is negative.

Answer: mechanical jaundice.

Blood test N 5

Patient Agarkov P. N.

Bilirubin according to Iendrashek, direct

reaction 229 mmol/l

glucose tolerance test on an empty

stomach-3.8 mmol / l

after 120 / - 5.8 mmol/l

ALT – 0.6 mmol/l

AST-0.45 µmol / l

aldolase-0.11 µmol/(sec. l) lactate

dehydrogenase – 3.0 µmol/l

alkaline phosphotase-4.0 mccat/l

cholesterol-7.0 mmol / l

albumins-62 %

fibrinogen-2 g / l

sulem sample-2.0 ml

thymol sample-2 units.

urinalysis

Bilirubin-will put.

Urobilin – negative.

fecal analysis

Schmidt's reaction to

stercobilin is negative.

Answer: mechanical jaundice.

**Blood test N 6**

Patient Fokin M. V.

Bilirubin according to Iendrashek, indirect

reaction 116 mmol/l

glucose tolerance test on an empty

stomach-4.0 mmol / l

after 120 / - 5.9 mmol/l

ALT – 0.5 mmol/l

AST – 0.2 µmol / l

aldolase-0.08 µmol/(sec. l) lactate

dehydrogenase-1.0 µmol/l

alkaline phosphotase-1.0 mccat/l

cholesterol-4.8 mmol / l

albumins-60 %

fibrinogen-2 g / l

sulem sample-1.8 ml

thymol sample – 3 units.

urinalysis

Bilirubin-negative.

Urobilin-abruptly puts it down.

analysis of feces

feces of dark color

Schmidt reaction ( + )

Response: hemolytic jaundice.

**Blood test N 7**

Patient Vardanyan N. H.

Iendrashek bilirubin, indirect

reaction 58 µmol/l fasting

glucose tolerance test

3.8 mmol / l

after 120 / - 6.0 mmol/l

ALT – 0.4 mmol/l

AST-0.1 µmol / l

aldolase-0.06 µmol/(sec. l) lactate

dehydrogenase – 0.8 µmol/l

alkaline phosphotase-0.7 mccat/l

cholesterol-5.0 mmol/L blood

albumin-56 %

fibrinogen-1.9 g/l

sulem sample-1.6 ml

thymol sample-1 unit.

urinalysis

Bilirubin-negative.

Urobilin – position.

fecal analysis

dark-colored feces

Answer: parenchymal jaundice.

**Blood test N 8**

Patient Tarasov I. P.

Bilirubin according to Iendrashek, indirect

reaction 64 µmol/l

glucose tolerance test on an empty

stomach-4.2 mmol / l

after 120 / - 5.6 mmol/l

ALT – 0.3 mmol/l

AST – 0.4 µmol / l

aldolase-0.13 µmol/(sec. l) lactate

dehydrogenase-2.0 µmol/l

alkaline phosphotase-1.5 mccat/l

cholesterol-4.7 mmol / l blood

albumins-62 %

fibrinogen-3 g/l

sulem sample-2.0 ml

thymol sample – 4 units.

urinalysis

Bilirubin-negative.

Urobilin-abruptly changed.

fecal analysis

Schmidt's reaction to stercobilin is

sharply positive

Answer: hemolytic jaundice.

**Blood test N 9**

Patient Harutyunyan R. A.

Bilirubin by Andrasko,

indirect reaction 38 µmol/l

fasting glucose tolerance test - 5.0 mmol / l

after 120 / - 6.5 mmol/l

ALT – 0.6 mmol/l

AST-0.35 µmol / l

aldolase-0.1 µmol/(sec. l) lactate

dehydrogenase – 3.0 µmol/l

alkaline phosphotase-2.0 mccat/l

cholesterol-5.1 mmol/L blood

albumin-64 %

fibrinogen-3.5 g/l

sulem sample-1.9 ml

thymol sample-5 units.

urinalysis

Bilirubin-negative.

Urobilin-put it down.

fecal analysis

dark-colored feces

Answer: hemolytic jaundice.

Answer: parenchymal jaundice.

**Blood test N 10**

Patient Sokolov D. M.

Bilirubin according to Iendrashek:

total-410.0 mmol / l

direct-100.0 mmol/l

indirect-310.0 mmol/l

glucose tolerance test on an empty

stomach 6.2 mmol / l

after 120 / - 11.3 mmol/l

ALT – 1.3 mmol/l

AST-0.9 µmol / l

aldolase-0.19 µmol/(sec. l) lactate

dehydrogenase – 6.4 µmol/l

alkaline phosphotase-0.2 mccat/l

cholesterol-4.2 mmol/l blood

albumin-42 %

fibrinogen-1.5 g/l

sulem sample-4.0 ml

thymol sample-10 units.

urinalysis

Bilirubin-will put.

Urobilin-put it down.

fecal analysis

There are traces of stercobilin in the feces

Answer: parenchymal jaundice

**N11 blood test**

Patient Shmakov L. E.

Bilirubin according to Iendrashek, direct

reaction 58.5 mmol/l

glucose tolerance test on an empty

stomach-4.6 mmol / l

after 120 / - 5.6 mmol/l

ALT – 0.4 mmol/l

AST - 0.4 mmol / l

aldolase-0.1 mmol/(sec.l)

lactate dehydrogenase – 2.0 mmol/l

alkaline phosphatase-2.8 mccat/l

cholesterol-6.0 mmol/l

blood albumins – 60 %

fibrinogen – 3 g / l

sulem sample-1.8 ml

thymol sample – 3 units.

urinalysis

Bilirubin-will put.

Urobilin – negative.

fecal analysis

Schmidt's reaction to

stercobilin is negative.

Answer: mechanical jaundice

**Blood test N 12**

Patient Vasiliev N. M.

Bilirubin according to Iendrashek:

total-265.0 mmol / l

direct-55.0 mmol/l

indirect-210.0 mmol/l

glucose tolerance test on an empty

stomach-6.0 mmol / l

after 120 / - 10.6 mmol/l

ALT – 1.02 mmol/l

AST-0.71 µmol / l

aldolase-0.16 µmol/(sec. l) lactate

dehydrogenase – 5.8 µmol/l

alkaline phosphotase-0.12 mccat/l

cholesterol-3.5 mmol / l blood

albumins-45 %

fibrinogen-1.9 g/l

sulem sample – 5.2 ml

thymol sample-11ed.

urinalysis

Bilirubin-will put.

Urobilin-put it down.

fecal analysis

There are traces of stercobilin in the feces.

The Schmidt reaction (+ -).

Answer: parenchymal jaundice.

**Blood test N13**

Patient Idrisova M. V.

Bilirubin according to Iendrashek, indirect

reaction 116 mmol/l

glucose tolerance test on an empty

stomach-4.0 mmol / l

after 120 / - 5.9 mmol/l

ALT – 0.5 mmol/l

AST – 0.2 µmol / l

aldolase-0.08 µmol/(sec. l) lactate

dehydrogenase-1.0 µmol/l

alkaline phosphotase-1.0 mccat/l

cholesterol-4.8 mmol / l

albumins-60 %

fibrinogen-2 g / l

sulem sample-1.8 ml

thymol sample – 3 units.

urinalysis

Bilirubin-negative.

Urobilin-abruptly puts it down.

fecal analysis

dark-colored feces

Schmidt reaction ( + )

Response: hemolytic jaundice.

**Topic 12** Symptomatology of hepatitis, cirrhosis of the liver, gallstone disease, cholecystitis.

**Forms of ongoing monitoring of academic performance**

-письменный written survey;

-oral interview;

-the decision problem and situational tasks;

-practical skills development;

-abstract.

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

**Option 1**

1. Symptomatology of chronic hepatitis

2. Blood test for parenchymal jaundice

Option 2

1. Symptomatology of cirrhosis of the liver

2. Hepatic coma

**Questions for the oral survey:**

1. Etiology, pathogenesis, clinic of chronic hepatitis. Classification.

2. Etiology, pathogenesis, clinic of liver cirrhosis. Features of metabolic disorders, the most common complications.

3. Gallstone disease. Etiology, pathogenesis, clinical features, methods of diagnosis.

4. Cholecystitis. Etiology. Pathogenesis. The clinic. Diagnostic methods.

**Texts of situational tasks:**

**Situational problems:**

**Task 1**

Patient B., 58 years old, turned to the paramedic with complaints of general weakness, malaise, nausea, a feeling of heaviness in the right hypochondrium, flatulence, itching, aching pains in the right hypochondrium, increasing after eating fatty foods and physical exertion, nosebleeds. From the anamnesis, it turned out that the patient had been drinking alcohol in large quantities for many years. Objectively: the temperature is 36.90 C. General condition of moderate severity. The skin and visible mucous membranes are yellowish in color, traces of scratching on the skin are visible, there are brown crusts in the right nasal passage. The lips are bright, shiny, the tongue is smooth, moist. Palms are hyperemic. On the skin of the breast there are 2 vascular stars, on the skin of the abdomen around the navel there are dilated and convoluted subcutaneous veins. There is a lack of hair in the armpits, an increase in the mammary glands. Subcutaneous fat is not sufficiently developed. Breathing is weakened. The heart tones are rhythmic, muted. Heart rate 92 per minute, blood pressure 140/90 mm Hg. The abdomen is enlarged in size, with palpation slightly painful in the right hypochondrium. The liver protrudes 5 cm from under the edge of the costal arch along the midclavicular line, slightly painful, dense, the surface is uneven. The spleen protrudes from under the edge of the costal arch by 2 cm, painless.

1. Formulate and justify the presumed syndromes.

2. Name the necessary additional studies.

3. List the possible complications.

**Task 2**

What is the jaundice of the patient according to the biochemical blood test?

Patient Chaliew N. X.

Total bilirubin – 75 mmol / l

Direct bilirubin – 10 µmol/l

Indirect bilirubin – 20 mmol/l

ALAT – 48 µmol/l

ASAT - 53 µmol/l

lactate dehydrogenase – 415 units

alkaline phosphotase-325 units

cholesterol-5.0 mmol / L blood

albumin-58.5 %

fibrinogen-6 g / l

sulem sample-1.8 ml

thymol sample – 3 units.

the urine is frothy

Bilirubin-otrits.

Urobilin-otrits.

cal aholic

Task 3

What is the jaundice of the patient according to the biochemical blood test?

Patient Petrov V. G.

Total bilirubin – 45 mmol/l

Direct bilirubin – 4 µmol/l

Indirect bilirubin-28 mmol/l

ALAT – 43 µmol/l

ASAT - 42 mmol/l

lactate dehydrogenase – 250 units

alkaline phosphotase-95 units

cholesterol-5.0 mmol / L blood

albumin-58.5 %

fibrinogen-3 g/l

sulem sample-1.8 ml

thymol sample – 3 units.

urine - dark

Bilirubin-otrits.

Urobilin-otrits.

feces-dark

**Task 4**

What is the jaundice of the patient according to the biochemical blood test?

Patient Petrov V. G.

Total bilirubin-68 mmol/l

Direct bilirubin – 15 µmol/l

Indirect bilirubin-32 mmol/l

ALAT – 138 µmol/l

ASAT - 124 mmol/l

lactate dehydrogenase – 458 units

alkaline phosphotase-115 units

cholesterol-5.0 mmol/l

blood albumins-58.5 %

fibrinogen-8 g/l

sulem sample-1.8 ml

thymol sample – 3 units.

urine - dark

Bilirubin-otrits.

Urobilin-otrits.

cal-light

**The standard answer**

1. Jaundice syndrome. Portal hypertension syndrome. Hepatic cell failure syndrome. The syndrome of cholestasis.

Justification:

1) subjective research data:

• weakness, malaise, nausea, a feeling of heaviness and aching pain in the right hypochondrium, which increases after eating fatty foods and physical activity, flatulence, itching, nosebleeds ;

• bad habits alcohol abuse;

2) objective data •

• on examination: jaundice, traces of scratching on the skin, signs of former nosebleeds, red lips, "liver" palms and tongue, vascular " asterisks”;

• signs of portal hypertension “Jellyfish head " symptom”;

• lack of hair in the armpits, gynecomastia;

• an increase in the abdomen;

• palpation: enlargement of the liver and spleen;

2. General blood test: possible anemia, biochemical blood test: changes in the content of bilirubin, protein fractions, enzymes, radioisotope examination of the liver and spleen, puncture liver biopsy, liver ultrasound, laparoscopy.

3. Bleeding (esophageal, gastrointestinal), liver failure.

**Task 2**

Mechanical jaundice

**Task 3**

Hemolytic jaundice.

**Task 4**

Parenchymal jaundice.

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**List of abstract topics:**

1. Hepatic encephalopathy

2. Hepatic-cellular insufficiency

3. Portal cirrhosis of the liver

4. Viral hepatitis

**Topic 13** Main renal syndromes: urinary, nephrotic, nephritic, acute and chronic renal failure, renal hypertension, renal eclampsia.

**Forms of current monitoring of academic performance**:

-testing;

-oral interview;

-the decision problem and situational tasks;

-practical skills development;

-abstract.

**Evaluation materials of the current control of academic performance**.

**Questions for the written survey:**

**Option 1**

1. Edema on the face, hypertension, urine the color of "meat slops" are observed in

a) urolithiasis

b) acute glomerulonephritis c

) acute cystitis

d) chronic pyelonephritis

2. The urine color of "meat slops" is due to the content of a large amount of

number

a) protein

b) bacteria

c) white blood cells

d) red blood cells

3. The most common form of chronic glomerulonephritis

a) hypertensive

b) latent

c) nephrotic

d) mixed

4. Massive edema, spread throughout the body - this is

a) anasarca

b) ascites

c) hydropericardium

d) hydrothorax

5. Evaluate Zimnitsky's sample:

- daily diuresis-900 ml, night diuresis-300 ml,

- fluctuations in the relative density of urine 1010-1026

- the liquid part of the water-food diet is 1500 ml

a) violation of the water release function

b) violation of the concentration function

c) violation of the water release and concentration functions

d) norm

6. Acute glomerulonephritis develops

a) glucosuria

b) dysuria

c) oliguria

d) polyuria

7. The main cause of acute pyelonephritis

a) infection

b) poor nutrition

c) hypothermia

d) stress

8. Fever, pain in the lumbar region, leukocyturia are observed in

a) urolithiasis

b) acute glomerulonephritis

c) acute pyelonephritis

d) chronic glomerulonephritis

9. Urinalysis in acute pyelonephritis

a) hematuria, proteinuria

b) cylindruria, glucosuria

c) leukocyturia, bacteriuria

d) proteinuria, glucosuria

10. Bacteriuria is observed in

a) urolithiasis

b) acute glomerulonephritis

c) acute pyelonephritis

d) chronic glomerulonephritis

Option 2

1. The main cause of acute cystitis

a) hypovitaminosis

b) infection

c) hypothermia

d) stress

2. Clinical symptoms of acute cystitis

a) edema, hypertension,

b) pain in the lumbar region, fever

c) pain in the lumbar region, macrohematuria

d) fever, pain when urinating

3. An attack of severe pain in the lower back with radiation along the ureter in the

the groin area is observed in

a) glomerulonephritis

b) pyelonephritis

c) cystitis

d) kidney stones

4. With renal colic in the urine

a) macrogematuria is observed

b) leukocyturia

c) glucosuria

d) bacteriuria

5. With renal colic, the pain radiates

a) under the right shoulder blade

b) under the left shoulder blade

c) in the right shoulder

d) in the groin area

6. Chronic renal failure develops with chronic

a) glomerulonephritis

b) hepatitis

c) pancreatitis

d) cystitis

7. Fluctuation of the relative density of urine 1010-1012 in the Zimnitsky sample -

It is

a) isostenuria

b) nycturia

c) polyuria

d) proteinuria

8. In uremic coma, the exhaled air is marked by the smell of

a) ammonia

b) alcohol

c) acetone

d) rotten eggs

9. Nitrogenous slags in the body are formed by the breakdown of

a) proteins

b) vitamins

c) fats

d) carbohydrates

10. Nitrogenous slags are

a) albumins, globulins

b) bilirubin, cholesterol

c) creatinine, urea

d) glucose, lipoproteins

Response standards:

Option 1

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | b |
| 2 | d |
| 3 | c |
| 4 | a |
| 5 | d |
| 6 | b |
| 7 | a |
| 8 | c |
| 9 | c |
| 10 | c |

Option 2

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | c |
| 2 | d |
| 3 | d |
| 4 | a |
| 5 | d |
| 6 | А |
| 7 | А |
| 8 | А |
| 9 | А |
| 10 | А |

**Questions for the oral survey**

1. Urinary syndrome in renal patients, characteristic symptoms: polyuria, oliguria, nicturia, anuria, pollakiuria, dysuria, etc.

2. Nephrotic syndrome. Etiology, pathogenesis, laboratory and biochemical features.

3. Renal (renal) hypertension. Pathogenetic mechanism of development (what is RAAS?).

4. Renal eclampsia. Causes, symptoms. Basic principles of treatment.

5. Acute and chronic renal failure. Causes, pathogenesis, clinic. The stage of development. Diagnostic methods.

6. End-stage renal failure (uremic coma). Etiology, clinical picture.

**Texts of situational tasks:**

**Task 1**

Patient A., 48 years old, was taken to the clinic in a serious condition. Sluggish, drowsy, smell of urea from the mouth, oliguria, worries about severe itching of the skin. From the anamnesis, it was possible to find out that he has been suffering from chronic nephritis for the past 10 years. Periodically, 1-2 times a year, he was treated in a hospital. The last deterioration came a month ago after a sore throat. On examination: the skin is pale, dry to the touch, traces of scratching on the body. There is a slight swelling in the lower back and extremities. Exhausted. Pulse – 84 beats per minute, rhythmic, good filling, tension. Blood pressure 200/100 mmHg. Blood test: red blood cells-2,2. 10 12 / l, hemoglobin-56 g/l, white blood cells-6,0. 10 9/l, ESR-48 mm / h. Residual nitrogen – 56 mmol/l. Urinalysis: specific gravity-1005, protein 1.8 %, red blood cells 1-8 in the field of view, leached. In a sample of General – reposotory. What syndrome can you think of?

Answer: the patient has azotemia-a violation of the excretion of nitrogenous slags by the kidneys and their accumulation in the blood (residual nitrogen-56 mmol/l). This condition has emerged as a consequence of the 10 – year-old chronic nephritis accompanied by intoxication of the nervous system (confusion, drowsiness) nitrogen excretion the respiratory system (smell urea breath), the release of nitrogenous wastes sweat glands (skin dryness, scratching, itchiness), toxic effects on the germ red bone marrow (anemia), disorders of renal function (hypoinsulinemia).

**Task 2**

Patient S., 55 years old, was admitted to the clinic with pronounced edema of the entire body. In 1941, he received a shrapnel wound to the upper third of his right thigh with bone damage, and has since been treated for chronic osteomyelitis. For the last 2 years, the patient's fistulas did not close for a long time. At about the same time, I began to notice the appearance of swelling on the nostrils, puffiness of the face, pallor of the skin, weakness. Treatment with diuretics did not lead to a positive effect, edema persisted. On examination: sharp pallor of the skin, massive swelling on the lower extremities, lower back, face. The skin is pale, shiny. Blood pressure 105/70 mmHg. Heart tones are rhythmic, muted. Blood test: red blood cells-2,8. 10 12/l, hemoglobin-66 g/l, white blood cells-6,4. 10 9/l, ESR-55 mm / h. Total protein-42 g / l, L / G=9, cholesterol-6.8 mmol/l, residual nitrogen – 49.2 mmol/l. Daily diuresis – 500-600 ml, specific gravity of urine 1021-1029, protein 25 %, waxy, hyaline and granular cylinders 2-4 in the field of view, cholesterol and fatty acid salts. What syndrome can you think of? Answer: the patient has a nephrotic syndrome due to a long-term infectious disease (osteomyelitis) since 1944, characterized by proteinuria (25 % protein in the urine), lipoisuria, hypoproteinemia (protein-42 g / l, cholesterol and fatty acid salts, hypercholesterolemia (6.8 mmol/L), massive persistent edema.

**Task 3**

The patient K., 45 years old, was admitted to the clinic in an extremely serious condition, sharply inhibited, sluggish, falls asleep even in conversations, the skin is dry, pale yellow with traces of scratching and hemorrhage, the smell of urea from the mouth. The auscultation of the lungs, vesicular breathing weakened, pleural RUB vast areas of the left and right, muffled heart sounds, listened to the rhythm of “gallop” and pericardial RUB. Blood pressure 200/130 mm Hg Pulse 140 beats per minute, rhythmic, tense, good filling. Daily urine output of 200 ml. Urinalysis: specific gravity-1010, single leached red blood cells, single hyaline cylinders. Residual nitrogen-67 mmol / l, urea-12 mmol/l, creatinine-0.5 mmol/l, acidosis is noted, blood sodium – 52 mmol/l, blood calcium – 0.25 mmol/l, potassium – 8.3 mmol/l. A day later, the patient developed Kussmaul's breathing, no consciousness and reflexes, convulsive twitching, and death occurred. What syndrome can you think of? What is the cause of death of the patient? Answer: the patient died from uremic coma, which is the end stage of acute or chronic renal failure. The kidney does not perform its functions, nitrogenous slags accumulate in the blood (residual nitrogen-67 mm/l; creatinine-0.5 mm / l; urea-12 mm/l). There are changes of a toxic nature on the part of the central nervous system (lethargy, lethargy, drowsiness), the respiratory system (Kussmaul's breathing, pleural friction noise), the cardiovascular system (gallop rhythm and pericardial friction noise). Confirms uremia acidosis and electrolyte metabolism disorders (hyponatremia, hypocalcemia, hyperkalemia).

**Task 4**

Patient Z., 37 years old, was admitted to the clinic with complaints of headache, dizziness, flashing "flies" in front of his eyes, tinnitus, visual impairment and periodic stabbing pains in the heart. Ill for about 10 years. From the anamnesis, it was possible to find out that at the age of 25, he suffered from some kidney disease, had urine with blood, lower back pain, frequent urge to urinate, was treated on an outpatient basis. Objectively: the boundaries of the heart are percutorily expanded to the left, blood pressure is 240/130 mm Hg, with auscultation, the I tone at the apex is weakened, the emphasis of the II tone on the aorta is noted, the pulse is 88 beats per minute, rhythmic, sufficiently filled, tense. Blood test: hemoglobin-140 g / l, white blood cells-4600, ESR-10. Urinalysis: specific gravity 1015-1020, single leached red blood cells, single hyaline cylinders. What syndrome can you think of?

Answer: the patient has renal hypertension, i.e., damage to the cardiovascular system in kidney disease (In the anamnesis, an indication of kidney damage, changes in the urine analysis). Hypertension is diagnosed on the basis of characteristic complaints and objectively high diastolic and systolic blood pressure (240/130 mmHg), the expansion of the heart boundaries to the left and the accent of the second tone on the aorta.

**Task 5**

Patient S., 42 years old, turned to an optometrist with complaints of visual impairment, flashing "flies" in front of his eyes. On the fundus of the eye, there is a spasm of arterioles, the larger arteries are narrowed and twisted, the veins appear to be compressed by the arteries crossing them, their ampoule-like expansion is more pronounced before the intersection (a symptom of Gunn-Salus II). When measuring blood pressure, the figures 200/100 mm Hg were obtained. In the anamnesis 5 years ago, acute nephritis, then noted periodic pain when urinating, headache, aching lower back pain, but worked and did not seek medical help. What syndrome can you think of? On what basis did it develop?

Answer: in a patient with a renal pathology (a history of acute nephritis, then a violation of urination, lower back pain, headaches, accompanied by high blood pressure). There are changes in the fundus, accompanied by complaints of visual impairment (renal neuroretinitis), impaired retinal permeability, impaired capillary permeability, and dystrophic changes in the future.

**Task 6**

Pregnant I., 29 years old, was admitted to an obstetric clinic with a diagnosis: pregnancy of 36 weeks, toxicosis of the second half of pregnancy. Complaints of severe headache, dizziness, short-term vision loss, increased excitability. During the examination, edema of the feet, ankles and lower third of the shins, edema on the face are noted. Blood pressure 190/120 mmHg. Pulse 100 beats per minute, good filling, not tense. In the urine analysis: specific gravity 1023, protein-3.7 %, no sugar, single white blood cells in the field of vision. In the blood test, there are no features. On the second day in the clinic, the patient lost consciousness, convulsions, foam from the mouth, blood pressure 210/130 mm Hg. The attack was stopped by intravenous administration of magnesia sulfate (10 ml of 25 % solution) and 80 mg of furosemide. What kind of attack did the patient have? Answer: a patient with late toxicosis and nephropathy had an attack of eclampsia-sudden convulsions with loss of consciousness. This syndrome is explained not only by a significant increase in blood pressure, but also partly by brain edema and increased intracranial pressure.

**Task 7**

Patient K., 42 years old, was admitted with complaints of dry mouth, thirst, drinks up to 3-4 liters of water per day (increased diuresis, heaviness in the lumbar region, general weakness, decreased performance, headaches, nausea, vision impairment). From the anamnesis, it was found out that in his youth there were frequent sore throats, at the age of 25, after severe hypothermia and severe sore throat, there were swelling on the face, headache, weakness, changes in the color of urine (the color of "meat slops"). He refused the hospitalization offered at that time. He was not systematically treated. He noted periodic swelling on the face, a change in the color of urine to brown-brown. Upon admission, the patient is pale, there is no edema, blood pressure is 210/100 mm Hg. Pulse is 110 beats per minute, rhythmic, well-filled, tense. The heart tones are muted, the accent of the second tone is on the aorta. Blood test: hemoglobin – 36 g/l, red blood cells – 1.82 . 10 12 / l, ESR – 18 mm/h, white blood cells – 8.2 . 10 9 / l, residual blood nitrogen – 66 mmol/l. Urinalysis: specific gravity-1006, protein-0.8 %0, red blood cells - 2-4 in the field of view, leached. In the Zimnitsky sample-hypoisostenuria, daily diuresis-2 liters 500 ml, daily diuresis-1 liter, night diuresis-1 liter 500 ml. What renal syndromes can be distinguished in the patient?

Answer: nephritic syndrome (urinary syndrome, hypertension), chronic renal failure, anemia.

**Task 8**

Patient S., 54 years old, with the aim of suicide, drank half a glass (100,0) of acetic essence. He was admitted to the clinic in a state of apathy, confusion. On the mucous membrane of the lips and the skin of the chin, burns, swallowing is sharply difficult, the oral mucosa is sharply swollen, hyperemic, necrotic ulcers. Heart-tones are muted, tachycardia, extrasystoles are frequent, single, and in groups. Pulse 120 beats per minute, irregular, weak filling, blood pressure 90/50 mm Hg. During the day, the patient isolated 150 ml of urine, its specific gravity 1010. The color is dark brown, cloudy, the protein is 2.5 %, the mass of red blood cells under microscopy, lumps of cylinders impregnated with hemin. In the blood test: hemoglobin-100 g / l, red blood cells-3,2. 10 12 / l, white blood cells-15. 10 9 /l, ESR-48 mm / h. Acidosis is noted in the blood, residual nitrogen – 58 mmol/l, urea – 24.2 mmol/l, creatinine – 0.35 mmol/l.

What syndrome can you think of?

Answer: the patient has acute renal failure caused by taking an nfrotoxic poison-acetic acid, the stage of oligoanuria (150 ml of daily urine). Changes in the urine (proteinuria, hematuria), anemia, azotemia, acidosis, toxic changes in the central nervous system (confusion), the cardiovascular system (extrasystole, tachycardia, hypotension) confirm the syndrome of acute renal failure.

**Task 9**

Patient K., 48 years old, was taken to the emergency department of the hospital with complaints of sharp pain in the right half of the lower back, radiating to the right groin, perineum and right thigh, as well as false urge to urinate, dry mouth, nausea. He became acutely ill after physical exertion. Objective: restless, restless from the pain, the temperature of 37.6 C. In the lungs, vesicular breathing, no wheezing. The heart tones are muted. Pulse – 100 beats per minute, rhythmic, good filling, not tense. Blood pressure 120/80 mmHg. Pasternatsky's symptom is positive on the right. In the urine analysis: specific gravity 1017, single fresh red blood cells, oxalate salts. After 10 minutes after the injection of morphine and atropine, the pain decreased, and after 30 minutes completely stopped. What syndrome can you think of?

Answer: the patient has pain syndrome – renal colic associated with the movement of the stone through the urinary tract (in the urine analysis, fresh red blood cells, oxalate salts). Confirms colic restless behavior of the patient. Characteristic radiation of pain, a positive symptom of Pasternatsky and the effect of antispasmodic and analgesic therapy.

**3. Analysis of the urine sample of a General, sample concentration, sample breeding**

**UA №1**

All patients with a general clinical examination are required to conduct a urine test. Here is the most common version of a urine test. Rate it. Match your data with the discussion.

Study of patient A who was admitted to the clinic with pain in the lumbar region

|  |  |
| --- | --- |
| delivered quantity | 70,0 (ml) |
| Color | straw-yellow |
| Reaction | acid |
| Specific gravity | 1020 |
| Transparency | full |
| Protein | no |
| leukocyte | 2-3 in the field of view |
| epithelial cells | 1 - 2 plane cells in field of view |

Answer: the norm

**UA №2**

Patients B and C went to the doctor due to the fact that they noticed an unusual bloody color of the urine.

Results of a urine test

|  |  |  |
| --- | --- | --- |
| Characteristics of urine | Patient B | Patient C |
| delivered quantity | 180,0 ml | 60,0 ml |
| Color | bloody | color of meat slops |
| Reaction | acid | acid |
| Specific gravity | 1017 | 1024 |
| Transparency | nebulous | little nebulous |
| Protein | 0,33 %о | 1,84 %о |
| Microscopy of precipitate  epithelial cells | plane, 10 - 11 in the field of view | renal, 1 - 2 in the field of view |
| leukocytes | no | 2-3 in the field of view |
| erythrocytes | fresh, 15 - 20 in the field of view | alkaline, 30-60 in the field of view |
| hyaline cylinders | no | 1-2 in the field of view |
| Salts | oxalates in large quantities | no |

What diseases can you think of from these tests? What are the signs that indicate this?

Answer: In patients B and C, first of all, the bloody color of the urine should be noted. The urine is acidic, cloudy, with a normal specific gravity. There is also protein in the urine, but in the first case (patient B) it is very small, and in the second (patient C) it reaches 1.84 %. There are differences in the nature of the epithelium. In the first case, it is flat, that is, it enters the urine from the urethra and from the external genitals. In the second case-renal, indicating kidney damage. In the urine, red blood cells were found, which in the case of B are fresh (extrarenal), from the urinary tract. In the case of B-leached, that is, passed through the wall of the capillaries of the renal glomeruli.The presence of large amounts of salts (oxalates) in the urine indicates the possibility of the presence of stones. Hyaline cylinders, identified in patient B, are protein formations of tubular origin and are found in kidney diseases.Thus, patient B has a urinary tract lesion associated with urolithiasis. In a patient with B -, it is necessary to think about the defeat of the renal parenchyma. The presence of a large amount of protein, altered red blood cells, with a normal specific gravity-is characteristic of acute glomerulonephritis without impaired renal function.

**UA № 3**

The clinic was contacted by patient G, who for many years has suffered from bronchiectatic disease with frequent exacerbations, the release of a large amount of purulent sputum.

Results of a urine test

|  |  |
| --- | --- |
| Доставленное количество  delivered quantity | 120,0 |
| Цвет  Color | соломенно-желтый  straw-yellow |
| Реакция  Reaction | кислая  acid |
| Удельный вес  Specific gravity | 1028 |
| Прозрачность  Transparency | прозрачна  transparent |
| Белок  Protein | 16,30 %о |
| Лейкоциты  leukocytes | 2 – 3 в поле зрения  2-3 in the field of view |
| Цилиндры  cylinders | - восковидные, 0 – 1 – 2 в поле зрения  waxy, 0-1-2 in the field of view  - гиалиновые, 4 – 5 – 6 в поле зрения  hyaline 4-5-6 in the field of view  - зернистые, 2 – 3 в поле зрения  grainy, 2-3 in the field of view |
| Клетки почечного эпителия  Renal cell | 2 – 3 – 4 в поле зрения  2-3-4 in the field of view |

What causes changes in the urine? What is the nature of kidney damage in this case?

Answer: Draws attention to the presence of a large amount of protein and cylinders in the urine. It is known that the cylinders are protein and cellular formations of tubular origin. They are found in dystrophic processes in the tubules. Granular cylinders are formed from decayed cells of the renal epithelium. Waxy cylinders are characteristic of chronic kidney diseases.

The cause of such dystrophic changes is a chronic suppurative process, in particular, in the lungs. Amyloidosis develops in parenchymal organs, including the kidneys (amyloid is a protein-carbohydrate complex deposited in the intercellular substance of the organ parenchyma).

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**List of abstract topics:**

1. Uremic coma

2. Nephritic syndrome

3. Renal eclampsia

**Topic 14** Symptomatology of acute and chronic glomerulonephritis, pyelonephritis, urolithiasis

**Forms of ongoing monitoring of academic performance**

- written survey;

-oral interview;

-the decision problem and situational tasks;

-practical skills development;

-abstract.

**Assessment materials of the current control of academic performance**

**Questions for the written survey:**

**Option 1**

1. Symptomatology of acute glomerulonephritis

2. OAM in pyelonephritis

**Option 2**

1. Symptomatology of acute pyelonephritis

2. OAM in nephrotic syndrome

**Questions for the oral survey:**

1. Acute and chronic glomerulonephritis. Etiopathogenesis. Classification.

2. Clinical symptoms of glomerulonephritis. Diagnostic methods.

3. Pyelonephritis. Etiopathogenesis. The clinic. Diagnostic methods.

4. Urolithiasis. Etiopathogenesis. Clinical symptoms. Diagnostic methods.

**Interpretation of laboratory data: general urinalysis, Zimnitsky test, concentration test, dilution test**

**UA №. 1**

After giving birth, patient D has long-term pulling pains in the lower back. In this regard, a urine test was performed.

Results of a urine test

|  |  |
| --- | --- |
| delivered quantity | 40,0 ml |
| Color | straw-yellow |
| Reaction | alkaline |
| Specific gravity | 1008 |
| Transparency | nebulous |
| Protein | 0,33%о |
| precipitate | little, loose |
| epithelial cells | 1 - 2 plane cells in field of view |
| leukocytes | 2-3 in the field of view |
| erythrocytes | alkaline, 2-5 in the field of view |
| cylinders | hyaline, 0-1-2 in the field of view |

What kind of disease can you think about in this case?

Answer: A number of pathological signs were found in the urine: the reaction of urine to alkaline was changed, its turbidity was noted, its specific gravity was reduced, and protein in the amount of 0.33% o was detected. Microscopic examination revealed leached red blood cells, single hyaline cylinders, which are protein formations of tubular origin.A low specific gravity of urine indicates a decrease in the concentration function of the kidneys. Protein and leached red blood cells appear with increased vascular permeability of the glomeruli of the kidneys. The combination of such changes is characteristic of chronic kidney damage, with the involvement of the glomeruli (chronic glomerulonephritis).

**UA № 2**

After exposure of the patient have been hurt during urination, which has forced her to seek medical attention.

Results of a urine test

|  |  |
| --- | --- |
| delivered quantity | 40,0 ml |
| Color | straw-yellow |
| Reaction | alkaline |
| Specific gravity | 1028 |
| Transparency | nebulous |
| Protein | 1,5 %о |
| Precipitate | purulent, viscous |
| Epithelial cells | cells of the bladder with steatosis, 10 in the field of view |
| leukocytes | cover the entire field of view |
| erythrocytes | fresh, 15-20 in the field of view |
| Salts | amorphous phosphates, tripelphosphates |
| Bacteria | significant amount |

What disease can be assumed in this case?

Answer: The patient has clearly abnormal urine. It is cloudy, with an alkaline reaction, although the specific gravity of urine is not reduced. Microscopy of the sediment of the bladder cells, the mass of white blood cells, bacteria, which indicates an inflammatory process in the bladder. In addition, fresh red blood cells and salts were found, which indicates the presence of stones and possible traumatization of the mucous membrane. The protein in this case has an extrarenal origin (due to the shaped elements-pus). Thus, the existing suppurative changes in the urine of patient E, give grounds to diagnose urolithiasis with the phenomena of cystitis.

Solving situational problems:

Task 1

Patient N., 18 years old, turned to the paramedic with complaints of swelling on the face, lower extremities, headache, aching pain in the lower back, general weakness, the appearance of cloudy pink urine. He considers himself sick for 3 days. Previous illnesses: flu, 2 weeks ago there was a sore throat. Objectively: the temperature is 37.70 C. General condition of moderate severity. The face is swollen, swelling on the feet and shins. The skin is pale. Vesicular respiration. The heart tones are rhythmic, muted, the accent of the 2nd tone on the aorta. Pulse 84 per minute, rhythmic, tense. Blood pressure 165/120 mm Hg.The tongue is clean. The abdomen is soft, painless. The symptom of pounding is weakly positive on both sides.

1. Formulate and justify the presumed syndromes.

2. Name the necessary additional studies.

3. List the possible complications.

Task 2

Patient N., 32 years old, turned to the paramedic with complaints of stunning chills, fever, aching pains in the lower back on the right, frequent painful urination. His disease is associated with hypothermia. A history of frequent cystitis. Objectively: the temperature is 380C. General condition of moderate severity. The skin is clean. Vesicular respiration. Heart tones are muted, rhythmic, heart rate is 92 per minute, blood pressure is 120/80 mm Hg.The language is clear. The abdomen is soft, there is pain along the outer edge of the rectus abdominis muscle on the right at the level of the costal arch, navel and inguinal fold. The pounding symptom is positive on the right.

1. What pathological condition can be assumed?

2. Name the necessary additional studies.

3. List the possible complications.

Task 3

The paramedic was urgently called to the house of the patient K., 28 years old. Complaints of severe pain in the lower back and right half of the abdomen, radiating to the groin and right thigh. Notes frequent urge to urinate. A year ago, for the first time, there was a similar attack. They called an ambulance, after the injection, the pain went away, but after this attack there was red urine. Objectively: the temperature is 36.40 C. General condition of moderate severity. The patient is restless, looking for a comfortable position to relieve pain. There is no pathology on the part of the respiratory and cardiovascular systems. Pulse 76 per minute, rhythmic, blood pressure 120/60 mm Hg. The abdomen is soft, painful on palpation in the right half. The symptom of pounding is sharply positive on the right.

1. What pathological condition can be assumed?

2. Name the necessary additional studies.

3. List the possible complications.

Task 4

Patient S., 22 years old, was admitted to the clinic with complaints of general weakness, shortness of breath, headaches, swelling of the face, lower back, lower extremities, a decrease in the separation of urine, a change in the color of urine (the color of “meat slops”). He considers himself ill for 2-3 days. Two weeks ago, after severe hypothermia, he suffered a sore throat. During the examination, edema is noted on the face, trunk, and lower extremities. The skin is pale. Pulse 61 beats per minute, rhythmic, tense. Blood pressure 185/100 mmHg. Heart tones are muted, the accent of the II tone is on the aorta. Laboratory tests. Blood test: red blood cells – 3.9. 10-12/l, hemoglobin 76 g / l; white blood cells-10.2 . 10 9/l, ESR-26 mm / h. Residual nitrogen – 5.61 mmol/l. Urinalysis: specific gravity-1026, acid reaction, protein-2.8 %0, red blood cells fresh and leached 8-10 in the field of view. What syndromes can be identified in this kidney disease in a patient?

Task 5

During the medical examination at the factory, the patient K., 35 years old, did not have any complaints, did not consider himself sick. Objectively: the skin is clean, the usual color, no edema. There is vesicular respiration in the lungs. Heart-the limits of relative dullness are within the normal range, the tones are muted, clear. Pulse 78 beats per minute, rhythmic, good filling, not tense. Blood pressure 130/90 mm Hg. Pasternatsky's symptom is negative on both sides. In the analysis of urine: specific gravity ranges from 1015-1018, single leached red blood cells, protein 0.91 %0, single hyaline cylinders. Blood test: erythrocytes 4,2. 10 12 /l, hemoglobin-140 g / l, white blood cells-5,6. 10 9/l, ESR-17 mm / h. What syndrome can you think of?

**The standard answers:**

**Task 1**

1. Nephrotic, renal hypertension, urinary, renal failure.

Justification:

1) subjective research data:

* general weakness, headache, edema, macrohematuria, aching lower back pain;
* association with a previous infection (angina 2 weeks ago);

2) objective data :

* subfebrile temperature;
* on examination: pallor of the skin, swelling on the face and lower extremities;
* palpation: tense pulse, positive symptom of pounding on both sides;
* during auscultation: muffling of heart tones, arterial hypertension.

2. A General analysis of blood: leukocytosis, increased erythrocyte sedimentation rate, urinalysis: hematuria, proteinuria, cylindruria.

3. Acute heart failure, acute renal failure, encephalopathy (eclampsia), transition to a chronic form.

**Task 2**

1. Acute pyelonephritis.

Justification:

1) subjective research data:

* intoxication syndrome, aching lower back pain on the right, dysuric phenomena;
* association of the disease with hypothermia;
* frequent cystitis as a predisposing factor of the disease;

2) objective data :

* on examination: hyperthermia;
* palpation: soreness along the outer edge of the rectus abdominis muscle on the right at the level of the costal arch, navel and inguinal fold, a positive symptom of pounding on the right.

2. General blood test: leukocytosis, increased ESR, general urine test: leukocyturia, bacteriuria, Nechiporenko urine test: increase in the number of white blood cells, bacteriological examination of urine: detection of the pathogen and determination of its sensitivity to antibiotics, ultrasound examination of the kidneys.

3. Transition to a chronic form, bacterial shock.

Task 3

1. Urolithiasis, an attack of renal colic.

Justification:

1) data from the subjective study:

* an attack of sharp pain in the lower back on the right and in the right half of the abdomen, radiating to the groin area and right thigh, frequent urination;
* the presence of a similar attack in the anamnesis, macrogematuria after the arrest of the attack;

2) objective data :

* during the examination: the patient's anxiety, finding a comfortable position to reduce pain;
* palpation: abdominal pain in the right half, sharply positive symptom of Pasternatsky on the right.

2. General blood test: with the addition of inflammation, there is leukocytosis, an increase in ESR, a general urine test: salt crystals, ultrasound and X-ray examination of the kidneys.

3. Hydronephrosis, pyelonephritis, kidney failure.

Task 4

The patient has 1) urinary syndrome: oliguria, the color of " meat slops, hematuria, prteinuria; 2) hypertensive syndrome-complaints of headache, with auscultation, the accent of the second tone on the aorta, increased systolic and diastolic pressure (180/100); edematous syndrome-shortness of breath, “pale edema on the face”, lower back, lower extremities, oliguria, prteinuria, anemia. These syndromes are included in such diseases as acute diffuse glomerulonephritis.

Task 5

The patient has a urinary syndrome, which is expressed by a decrease in the relative density of urine (hematuria and proteinuria). The asymptomatic course of the disease for many years expressed only in the urinary syndrome is characteristic of latent chronic glomerulonephritis.

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**List of abstract topics:**

1. Chronic glomerulonephritis

2. Urolithiasis

3. Tubulo-interstitial diseases

**Topic 15** Symptomatology and methods of diagnosis of major syndromes in anemia.

**Forms of current performance monitoring:**

-testing;

-oral survey;

-the solution of the problem-situational tasks;

-the assessment of practical skills;

-report.

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

**Option 1**

1. Classification of anemia according to the etiological principle

2. Blood analysis in B12 deficiency anemia

**Option 2**

1. The main clinical syndromes in B12 deficiency anemia

2. Blood analysis in iron deficiency anemia

**Assessment materials of the current control of academic performance**

**Questions for the oral survey**

1. Etiology, pathogenesis, symptoms and classification of anemia (iron deficiency, B12 deficiency, hypo – and aplastic anemia).

2. Laboratory diagnosis of anemia.

3. Acute posthemorrhagic anemia. Hemorrhagic shock.

4. Principles of treatment of anemia.

**Text tasks:**

**Option 1**

1 # Specific changes in the bone marrow are found in:

B12-deficient anemia

leukemia

myeloma

aplastic anemia

+all of the above

2# What is the symptom caused by exposure to the breakdown products of red blood cells and white blood cells:

itchy skin;

+fever;

asthenia;

increased bleeding.

3#What disease is characterized by a full-blooded cherry-red color of the skin of the face, neck and hands?

Hodgkin's disease

+ erythremia

hemolytic anemia

4# Prolonged non-stopping bleeding is characteristic of:

leukemia

anemia

+hemophilia

5#The percentage of shaped blood elements (hematocrit) is normal:

20-25%

30-35%

+40-45%

50-60%

6# Vitamin B12 and folic acid are essential:

for iron transport

amino acid metabolism

+for cell DNA synthesis

7#What type of anemia is characterized by waxy pallor of the skin with a slight greenish

tinge?

acute posthemorrhagic anemia

+early and late chlorosis

hemolytic anemia

B12-(folic) - deficient anemia

aplastic anemia

8# In what type of anemia does the skin have a lemon-yellow color, combined with ictericity

(or subicteric) sclera?

acute posthemorrhagic anemia

early and late chlorosis

+hemolytic anemia

B12-(folic) - deficient anemia:

aplastic anemia

9#An increase in the Hb content in comparison with the upper limit of the norm occurs in all

cases, except:

true polycythemia in

the inhabitants of the highlands in

pilots after high altitude flights

+leukemia

10 # Indicate the normal content of red blood cells in the peripheral blood in healthy

women:

4.0-5.0 x 1012 /l

+3.9-4.7 x1012 /l

3.0-4.0 x1012 /l

5.0-6.0 x1012 /l

11 # An increase in the hematocrit number is characteristic of:

leukemia

anemia

+compensatory erythrocytosis

Option 2

1# For the diagnosis of a particular type of anemia is not essential:

myelogram analysis;

general blood test with counting of reticulocytes and platelets;

cytochemical examination of blood and bone marrow punctures;

determination of osmotic resistance of red blood cells, Coombs test,

blood bilirubin content, hematocrit;

+determine the time of bleeding.

2#The evidence-based sign of anemization is:

earthy-gray skin tone

jaundice skin tone

+pallor of the mucous membranes

3#In what blood disease does Hunter's glossitis occur?

Hemolytic anemia

+B12-deficient anemia

lymphogranulomatosis

4 # An increase in the hematocrit number is characteristic of:

leukemia

anemia

+compensatory erythrocytosis

5 # The cause of pain in blood diseases such as colic in the right hypochondrium is:

hepatomegaly biliary

dyskinesia

+ pigment stones in the gallbladder

6# Vitamin B12 and folic acid are essential:

for iron transport

amino acid metabolism

+for cell DNA synthesis

7# What type of anemia is characterized by a sharp pallor, especially of the ears, combined with

hemorrhages on the skin?

acute posthemorrhagic anemia

early and late chlorosis

hemolytic anemia

B12-(folic) - deficient anemia

+aplastic anemia

8#What is the name of the syndrome, which is manifested by a decrease in the Hb content in a unit

of blood volume?

polycythemia erythrocytosis

+anemia

9 # Indicate the normal content of red blood cells in the peripheral blood of healthy

men:

+4.0-5.0 x1012 /L

3.9-4.7 x1012 /L

3.0-4.0 x1012 /L

5.0-6.0 x1012 /l

10#The normal Hb content in men is:

120-140 g/l

+130-160g/l

150-170 g / l

11 # Vitamin B12 and folic acid are essential:

for iron transport

amino acid metabolism

+for cell DNA synthesis

**Interpretation of results of laboratory tests: a General analysis of blood**

**Texts of situational tasks:**

Blood test№ 1

In the therapeutic department, patients A and B were simultaneously treated, who had a history of chronic gastritis with secretory insufficiency. The usual stomach complaints were joined by sharp weakness, fatigue, and pallor of the skin.

In the blood test, the following data were obtained:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Patient А | Patient B | |
| Red blood cells  Hemoglobin  Color Index  Reticulocytes  Platelets  ESR  White blood cells  Eosinophils  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Normoblasts  Hematocrit | 2150000 – 2,15 . 1012/l  80 g/l  0,7  3 %  220 10 9/ л – 220 . 10 9/ л  7 mm/h  8000 – 8 . 109/л  2  5  66  26  1  3 – 4 на 100  33 % | | 1 млн. – 1 . 1012/l  37 g/l  1,1  13 %  35 mm/h  8000 – 8 . 109/l  2  1  47  42  8  megaloblasts, megalocytes,  poikilocytosis, anisocytosis  31 % |

What are the associated symptoms? What complication can you think of with such blood tests?

Answer: In both cases, there was a decrease in red blood cells and hemoglobin, i.e. there is anemia. However, there are a number of differences. So in the case of A, the color index is also reduced, i.e. the anemia is hypochromic. In the case of B, the color index is increased, i.e. the anemia is hyperchromic. The increased content of reticulocytes in both tests indicates a good regenerative function of the bone marrow. A significant difference is the morphological feature of blood cells. In the first case, in addition to normal blood cells, normoblasts were detected, which indicates a normoblastic type of hematopoiesis. In the second case, megaloblasts and megalocytes were found, which is found in the megaloblastic type of hematopoiesis. In anemia, the size of red blood cells often changes, which is called anisocytosis. Often, along with anisocytosis, there is a change in their form-poikilocytosis. Anisocytosis and poikilocytosis are most common in megaloblastic anemia caused by vitamin B12 deficiency. It is known that in the absence of hydrochloric acid and pepsin in the gastric juice, iron salts, vitamin B12 and others are poorly absorbed. At the same time, hypochromic (iron – deficient) anemia and hyperchromic (B12-deficient) anemia may develop.

Blood test№ 2

The department received a patient with complaints of heaviness in the head, headaches, tinnitus. On examination, a “full-blooded” skin color is noted, especially on the face and hands. Blood pressure increased to 170/100 mm Hg. Palpation increased liver and spleen.

Blood test:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Indicator  ESR  Platelets  White blood cells  Eosinophils  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Hematocrit | 7 . 1012 /l – 7 . 1012 /l  190 g/l  0,91  2 mm/h  1 mln. – 1000000 . 109/l  10000 – 10 . 109/l  2  1  66  24  7  58 % |

Blood clotting and bleeding time are not changed. What kind of disease can you think about with such data?

Answer: In the blood, there is an increase in the content of red blood cells, white blood cells and platelets. The leukocyte formula is not changed. The color indicator is less than one. Due to an increase in the content of blood cells and, accordingly, the blood viscosity, ESR is slowed down. This combination of changes is characteristic of erythremia (Wakez disease).

**Blood test 3**

A patient with an unclear diagnosis was admitted to the hospital. I noted weakness, lack of efficiency, high temperature. The patient is scheduled for an examination to clarify the diagnosis. In the blood test, the following data were obtained:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Indicator  ESR  White blood cells  Basophils  Eosinophils  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Hematocrit | 4000000 – 4 .  130g/l  0,87  25 mm/h  15000 – 15 . 109/l  1  1  16  57  20  5  44 % |

What does this analysis indicate?

Answer: There is no pathology on the part of the red blood. There is an increase in the number of cells to 15000 shift formula to the left (increasing the number of band cells), increased ESR. On the basis of such data, it is possible to suspect an inflammatory process in the body, the localization of which must be established by additional methods.

**Blood test №4**

The department received a patient with unclear attacks of suffocation, which occur mainly in the summer. After the attack, a thick mucous sputum is released. In the order of examination, the patient's blood and sputum are sent for analysis. The following data were found in the blood:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Indicator  ESR  White blood cells  Eosinophils  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Hematocrit | 4780000 – 4,78 . 1012/l  144 g/l  0,9  8 mm/h  5800 – 5,8 . 109/l  12  4  60  20  4  48 % |

What can you think about from such a blood test? What data do you expect to get when analyzing sputum?

Answer: In this case, there are no deviations from the norm on the part of the red blood. ESR is within the normal range. Only the leucoformula was changed due to an increase in eosinophils. As you know, the number of eosinophils increases with allergic processes, helminthic invasion. The combination of the clinical picture with such an analysis suggests bronchial asthma, which is based on some allergen (atopic asthma). This is confirmed by the detection of eosinophils, Charcot-Leyden crystals, and Curschmann spirals in sputum.

**Task 5**

What anemia is typical blood test: erythrocytes – 1,6х1012 /l, Hb – 60 g/l CPU – 1.4,

leukocytes – 3,56х109 /l, eosinophils – 0,p/I-10%, C/I – 46%, lymphocytes – 38%, monocytes 6%, and normoblasts, megaloblasts, reticulocytes – 0,1-0%, erythrocytes corpuscles Jolly and rings Cabot, basophilic punctuation?

+B12 deficiency

hypochromic

hemolytic

aplastic

**Task 6**

What type of anemia corresponds to the hemogram: red blood cells-2, 6x1012 /l, Hb-60 g/l, CP-0.7, white blood cells-6, 5x109 /l, white blood cell formula without shifts, pronounced anisocytosis, poikilocytosis?

B12-deficient

+hypochromic

hemolytic aplastic

**Task 7**

What type of anemia in the bone marrow punctate shows hyperplasia of the erythroid germ, signs of megaloblastic hematopoiesis (megaloblasts, megakaryocytes?)

+B12-deficient

hypochromic

hemolytic

aplastic

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**List of abstract topics:**

1. Hypo -, aplastic anemia

2. Hemolytic anemia

3. Myelodysplastic syndrome

4. Diagnosis of anemia, diagnostic value of sternal puncture

**Topic 16** Symptomatology and methods of diagnosis of major syndromes in hemoblastosis (leukemia). Hemorrhagic syndrome.

**Forms of current performance monitoring:**

-testing;

-oral survey;

-the solution of the problem-situational tasks;

-the assessment of practical skills;

-report.

**Evaluation materials of the current control of academic performance.**

**Questions for the written survey:**

**Option 1**

1. With massive pulmonary bleeding, anemia develops

a) aplastic

b) vitamin B12 deficiency

c) hemolytic

g) post-hemorrhagic (acute)

2. With prolonged hemoptysis, anemia develops

a) B12-deficient

b) hemolytic

c) hypoplastic

g) post-hemorrhagic (chronic)

3. Symptoms of acute posthemorrhagic anemia

a) thirst, decreased blood pressure

b) arousal, increased blood pressure

c) convulsions, increased blood pressure

d) vomiting, bradycardia

4. Acute posthemorrhagic anemia by color index

a) hyperchromic

b) hypochromic

c) normochromic

5. Prolonged heavy menstruation leads to the development of anemia

a) aplastic

b) B12-deficient

c) hemolytic

d) iron deficiency

6. Weakness, fainting, perversion of taste and smell are observed when

anemia

a) B12-deficient

b) hypoplastic

) hemolytic

d) iron deficiency

7. Iron deficiency anemia by color index

a) hyperchromic

b) hypochromic c

c) normochromic

8. Addison-Biermer anemia develops with a deficiency of vitamin

a) B1

b) B2

c) B6

d) B12

9. B12-deficient anemia develops in

a) atrophic gastritis

b) gastric bleeding

c) pulmonary bleeding

d) deficiency of clotting factors

10. Clinic of B12-deficient anemia

a) perversion of taste and smell

b) vomiting of "coffee grounds" and tar-like stools

c) belching bitter, pain in the right hypochondrium

d) burning sensation in the tongue, paresthesia

11. The cause of hemophilia

a) bacterial infection

b) the effect of ionizing radiation

c) hypothermia

d) chromosomal abnormality

12. The deficiency of the VIII factor of blood clotting is observed in

a) Werlhof's disease

b) the disease Henoch-Schonlein purpura

c) hemophilia A

d) the ratio With

13. In hemophilia A, there is a deficiency of blood clotting factor

a) VIII

b) IX

c) X

d) XI

14. Clinical symptoms characteristic of hemophilia

a) weakness, malaise

b) shortness of breath, tachycardia

c) bleeding, hemarthrosis

d) nausea, vomiting

15. In the diagnosis of hemorrhagic diatheses, it is important to

study of

a) leukogram

b) proteinograms

c) coagulograms

d) radiographs

**Option 2**

1. B12-deficient anemia by color index

a) hyperchromic

b) hypochromic

c) normochromic

2. Red "lacquered" tongue is observed in anemia

a) B12-deficient

b) iron-deficient

c) hemolytic

d) hypoplastic

3. A decrease in hemoglobin and color index, anisocytosis, poikilocytosis are

observed in anemia

a) B12-deficient

b) iron deficiency

c) hemolytic

d) acute post-hemorrhagic

4. Increased color index, macrocytosis, Jolly bodies, rings

Kebota are observed in anemia

a) B12-deficient

b) hemolytic

c) hypoplastic

d) iron deficiency

5. Jaundice, hepatosplenomegaly, dark color of urine are observed in anemia

a) aplastic

b) hemolytic

c) iron deficiency

d) acute posthemorrhagic

6. Splenectomy is performed with anemia

a) B12-deficient

b) hemolytic

c) iron-deficient

d) acute posthemorrhagic

7. The cause of aplastic anemia

a) hemolysis of red blood cells

b) iron deficiency in the diet

c) vitamin B12 deficiency

d) the effect of ionizing radiation

8. Pancytopenia, increased ESR are observed in anemia

a) aplastic

b) B12-deficient

c) iron-deficient

d) hemolytic

9. The main cause of acute leukemia

a) bacterial infection

b) inactivity

c) stress

d) chromosomal disorders

10. Sternal puncture is performed in the diagnosis of

a) myocardial infarction

b) leukemia

c) pneumonia

d) cirrhosis of the liver

11. With leukemia, there are syndromes

a) painful, dysuric

b) hypertensive, nephrotic

c) hyperplastic, hemorrhagic

d) painful, dyspeptic

12. Hyperleukocytosis up to 200x109/l is observed in

a) leukemia

b) pyelonephritis

c) pneumonia

d) rheumatism

13. Leukemic "failure" in the blood test is observed in

a) hemophilia

b) acute leukemia

c) chronic lymphocytic leukemia

d) chronic myeloid leukemia

14. In chronic lymphocytic leukemia, there is an increase in

a) the liver, spleen, heart

b) liver, spleen, lymph nodes c

) spleen, heart, kidneys

d) spleen, heart, thyroid gland

15. The Philadelphia chromosome in bone marrow cells is determined in

a) hemophilia

b) acute leukemia

c) chronic lymphocytic leukemia

d) chronic myeloid leukemia

**Response standards:**

**Option 1**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | d |
| 2 | d |
| 3 | a |
| 4 | c |
| 5 | d |
| 6 | d |
| 7 | b |
| 8 | d |
| 9 | a |
| 10 | d |
| 11 | d |
| 12 | c |
| 13 | a |
| 14 | c |
| 15 | c |

**Option 2**

|  |  |
| --- | --- |
| Question number | Answer option |
| 1 | А |
| 2 | А |
| 3 | b |
| 4 | А |
| 5 | b |
| 6 | b |
| 7 | d |
| 8 | А |
| 9 | d |
| 10 | b |
| 11 | c |
| 12 | А |
| 13 | b |
| 14 | b |
| 15 | b |

**Questions for the oral survey**

1. Etiology, pathogenesis, symptoms and classification of acute, chronic hemoblastosis (leukemia).

2. Laboratory diagnosis of leukemia, differential laboratory diagnosis of acute and chronic leukemia, leukemoid reaction.

3. Myeloblastic syndrome-clinical variants.

4. Hemorrhagic syndrome. Etiology, pathogenesis, clinical symptoms. Thrombocytopenic purpura**.**

**Test tasks:**

1 # An increase in the number of white blood cells in infectious diseases is most often associated with an increase in:

eosinophil

lymphocytes

+neutrophils

Monocytes

2#What disease can I think about when detecting hyperleukocytosis (50-200x109)?

pneumonia

carbuncle

+leukemia

acute cholecystitis

3#Monocytosis can be detected when:

tuberculosis

syphilis

malaria

protozoal and viral diseases

+with all of the above

4#Neutrophilic leukocytosis with a sharp shift to the left can have revenge in all diseases, except:

+ helminthic invasion

acute gangrenous cholecystitis

severe drug dermatitis

peritonitis

5#What kind of disease can you think about when a patient has a large, deep, painful hematoma in the right thigh area after a slight bruise?

hemorrhagic vasculitis

Wehrlhof's disease

+hemophilia

-Randu-Osler disease

6#What disease is characterized by nasal, gingival, uterine bleeding, bruising, thrombocytopenia?

hemolytic anemia

+thrombocytopenic purpura

hemophilia

the disease Henoch-Schonlein purpura

7 # Specify the most reliable diagnostic sign of acute leukemia: the

presence of hemorrhagic, anemic, febrile syndromes

detection of Botkin-Gumprecht cells

+ detection of 30 or more blast cells in the myelogram

complaints of fatigue, weakness, fever, bleeding gums

8 # Specify the hematological signs of chronic lymphocytic leukemia:

leukocytosis (40x10590/l) with a shift of the formula to the left to myelocytes

moderate leukocytosis, anemia with high reticulocytosis

+leukocytosis (60x10590/l), absolute lymphocytosis, Gumprecht shadow detection

anemia, thrombocytopenia, leukopenia

9#How should the changes in the hemogram be interpreted when a patient with sepsis has leukocytosis 40x10590/l with a shift to the left to myelocytes, toxic neutrophil granularity?

acute leukemia

+leukemoid reaction of the neutrophil type

leucocytosis with a shift to the left

chronic myeloid leukemia

10#Vascular-purple type of bleeding is characteristic of:

Randu-Osler disease

+Schonlein-Genoch disease

hemophilia A

hemophilia B

hemophilia C

11#The pathology of which part of the hemostasis is indicated by the lengthening of the bleeding time at normal parameters of prothrombin and partially activated thromboplastin time?

coagulation

+platelet

vascular disease

Option 2

1#The pathology of which part of the hemostasis is indicated by the lengthening of the bleeding time at normal parameters of prothrombin and partially activated thromboplastin time?

coagulation

+platelet

vascular disease

2#Vascular-purple type of bleeding is characteristic of:

Randu-Osler disease

+Schenlein-Genoch diseases

of hemophilia A

hemophilia B

hemophilia C

3#How should changes in the hemogram be interpreted when a patient with sepsis has leukocytosis 40x10590/l with a shift to the left to myelocytes, toxic neutrophil granularity?

acute leukemia

+leukemoid reaction of the neutrophil type

leucocytosis with a shift to the left

chronic myeloid leukemia

4 # Specify the hematological signs of chronic lymphocytic leukemia:

leukocytosis (40x10590/l) with a shift of the formula to the left to myelocytes

moderate leukocytosis, anemia with high reticulocytosis

+leukocytosis (60x10590/l), absolute lymphocytosis, Gumprecht shadow detection

anemia, thrombocytopenia, leukopenia

5 # Specify the most reliable diagnostic sign of acute leukemia: the

presence of hemorrhagic, anemic, febrile syndromes

detection of Botkin-Gumprecht cells

+ detection of 30 or more blast cells in the myelogram

complaints of fatigue, weakness, fever, bleeding gums

6#What disease is characterized by nasal, gingival, uterine bleeding, bruising, thrombocytopenia?

hemolytic anemia

+thrombocytopenic purpura

hemophilia

the disease Henoch-Schonlein purpura

7#What kind of disease can you think about when a patient has a large, deep, painful hematoma in the right thigh area after a slight bruise?

hemorrhagic vasculitis

Wehrlhof's disease

+hemophilia

-Randu-Osler disease

8 # Neutrophilic leukocytosis with a sharp shift to the left can have revenge in all diseases, except:

+ helminthic invasion

acute gangrenous cholecystitis

severe drug dermatitis

peritonitis

9#Monocytosis can be detected in:

tuberculosis

syphilis

malaria

protozoal and viral diseases

+with all of the above

10#An increase in the number of white blood cells in infectious diseases is most often associated with an increase in:

eosinophils of

lymphocytes

+neutrophils

Monocytes

11#What disease can I think about when detecting hyperleukocytosis (50-200x109)?

pneumonia

carbuncle

+leukemia

acute cholecystitis

**3. General blood test**

**Blood test№ 5**

The patient went to the clinic due to the fact that she began to notice the appearance of bruises on the skin, appearing spontaneously or from a slight bruise, sometimes nosebleeds. The blood test revealed:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Indicator  White blood cells  Stick-core  Segmented Cores  Lymphocytes  Monocytes  ESR  Platelets  Hematocrit | 3,8 mln. – 3,8 . 1012/l  120 g/l  0,95  6000 – 6 . 109/l  4  70  20  6  12mm/h  50000 – 50 . 109/l  38 % |

Blood clotting time is not changed. Bleeding time is 15 minutes. With thromboelastography, a sharp slowdown in the reaction time and the formation of a blood clot is determined. What disease are you thinking about?

Answer: In this case, there is a slight decrease in the number of red blood cells with a normal white blood cell formula. The number of platelets is significantly reduced (the norm is 250 – 300 thousand), which caused the presence of hemorrhagic syndrome in the patient. In combination with the clinical picture, in this case, we can think of Werlhof's disease. A decrease in the platelet count is one of the causes of hemorrhagic syndrome. Other causes may be disorders of the coagulation system and vascular wall permeability.

**Blood test№ 5**

The patient went to the doctor in connection with the heaviness in the left hypochondrium. However, long before that, I was worried about weakness, fatigue, excessive sweating, and subfebrility. On examination, the doctor found an enlarged spleen. The blood test showed the following changes:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Indicator  ESR  White blood cells  Myeloblasts  Promyelocytes  Myelocytes  Young people  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Hematocrit | 2800000 – 2,8 . 1012/l  67 g/l  0,5  30 mm/h  100000 – 100 . 109/l  5  10  23  7  21  24  7  3  36 % |

What is the diagnosis of this patient?

Answer: In the blood, the content of white blood cells is increased, the absolute majority of them are granulocytes, along with mature cells, young cells, myelocytes, promyelocytes, myeloblasts, which is found in chronic myeloid leukemia, are identified. In parallel, changes in red blood were noted (the number of red blood cells and hemoglobin decreased, the color index decreased), which fit into hypochromic anemia. Along with this, an increase in ESR was noted. Such changes are characteristic of the pronounced stage of chronic myeloid leukemia.

**Blood test№7**

The patient went to the doctor due to the fact that she began to notice general weakness, malaise, fatigue, sweating, fever to subfebrile numbers. The following changes were detected in the blood test:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Index  ESR  White blood cells  Eosinophils  Segmented Cores  Lymphoblasts  Lymphocytes  Monocytes  Hematocrit | 2,8 mln – 2,8 . 1012/l  77 g/l  0,5  26 mm/h  150000 – 150 .  109/l  2  5  2  88  3  31 % |

What disease did the doctor think of? What confirms this diagnosis?

Answer: After receiving such a blood test, the doctor should pay attention to the condition of red and white blood. An increase in the number of white blood cells to 150,000 was found, with the bulk of them represented by lymphocytes. There is a small number of young cells-lymphoblasts. Such changes are characteristic of chronic lymphocytic leukemia. On the part of the red blood, there is hypochromic anemia (the number of red blood cells and hemoglobin is reduced, the color index is less than 1.0). The phenomenon of anemia usually joins in the terminal period.

**Blood test№ 8**

The ENT doctor was contacted by the patient about pain in the throat when swallowing, high fever of the remitting type, chills, sharp weakness. On examination, there was a picture of necrotic angina. A blood test was scheduled, in which the following changes were detected:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Index  ESR  White blood cells  Myeloblasts  Stick-core  Segmented Cores  Lymphocytes  Hematocrit | 2150000 – 2,15 . 1012/l  80 g/l  0,7  40 mm/h  100000 – 100 . 109/l  80  1  11  8  28 % |

Sternal punctate. In the sternal punctate, the content of erythroblastic germ cells is sharply reduced, myeloid cells predominate, mainly young forms-promyelocytes, myelocytes and metamyelocytes. What diagnosis can be made in this case?

Answer: Attention is drawn to the content of a large number of white blood cells, and 80 % of them are young, immature cells. Between them and mature white blood cells, there is a hiatus leucaemicus-i.e., a leukemic failure. This blood pattern is typical for acute myeloid leukemia. Due to the rapid proliferation of erythroblasts from the bone marrow in patients, there is a decrease in the number of red blood cells.

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson №4, module 2 (see above).

**List of abstract topics:**

1. Multiple myeloma

2. Chronic leukemia

3. Hemophilia

4. Thrombocytopenic purpura

5. Diagnosis of coagulation disorders

**Topic 17** Symptomatology and methods of diagnosis of major syndromes in endocrine diseases (diabetes mellitus, thyrotoxicosis). Emergency care for diabetic (ketoacidotic), hypoglycemic and thyrotoxic coma.

**Forms of current control of academic performance:**

-written survey,

-oral survey,

-solving problem-situational problems;

-the assessment of practical skills;

-report

**Assessment materials of the current control of academic performance**

**Questions for the written survey:**

**Option 1**

1. Diabetic coma: clinical manifestations, emergency care

2. Thyrotoxic crisis, clinical manifestations

**Option 2**

1. Hypoglycemic coma: clinical manifestations, emergency care

2. Myxedema, definition, clinical manifestations.

**Questions for the oral survey:**

1. Diabetes mellitus. Etiology, pathogenesis, clinical symptoms.

2. Diabetic (ketoacidotic coma). Etiology, main signs, emergency care.

3. Hypoglycemic coma. Etiology, main signs, emergency care.

4. Syndrome, improve the function of the thyroid gland (hyperthyroidism). Clinical picture.

**Texts of situational tasks:**

**Task 1**

A 42-year-old patient who was in the hospital for type 1 diabetes developed body tremors, sweating, and decreased visual acuity within an hour after eating. On examination, the skin is pale, moist. Refuses to answer questions, is aggressive. In the lungs, respiration is vesicular. Pulse 98 beats per minute, blood pressure 90/50 mm Hg. The heart tones are muted, rhythmic. The tongue is wet. The stomach is calm. The blood glucose level is 2.8 mmol/l. What is the preliminary diagnosis? Tactics?

**Task 2**

A 30-year-old patient with complaints of rapid fatigue, sharp weakness, weight loss in less than 2 months by 10 kg while maintaining appetite, tearfulness, palpitations. Ill for 6 months. She was treated with sedatives without improvement. Over the past 3 months, others have begun to notice an increase in the front surface of the neck. During the examination, the patient is agitated, crying, and her movements are fussy. The skin is hot, moist, of the usual color. Positive eye symptoms are detected, in the Romberg pose, tremor of the outstretched fingers. The thyroid gland is enlarged to the III degree according to Nikolaev, elastic, painless. Heart rate 120 v min. Blood pressure 160/80 mmHg. Heart tones are clear, rhythmic. The stomach is calm. There is vesicular respiration in the lungs. What is the diagnosis?

**Task 3**

The patient has been treated for amenorrhea for 5 years. Periodically, the patient is disturbed by headaches. The last year marks weight gain, constipation. On examination: the skin is pale, dry, the thyroid gland is not enlarged. There is vesicular respiration in the lungs. Heart rate 60 v min. Blood pressure 130/70 mm Hg The heart tones are muted, rhythmic. Light discharge from the mammary glands. The tongue is wet, and there are teeth marks on the side surface. The abdomen is soft, painless.

What is the preliminary diagnosis?

**Standards of answers:**

Task 1

Answer: The patient has hypoglycemia due to an overdose of insulin or skipping a meal. Necessary additional examination: glycemia in dynamics. Treatment: inside juice, syrup or candy, glucose 40% - 40-60 ml / in a jet, with insufficient effectiveness of glucagon (hypokit), epinephrine, prednisone, system with glucose. Correction of insulin doses.

Task 2

Answer: In a patient with DTZ III st, first detected. Necessary examination of T3,T4, ultrasound.

Task 3

Answer: There is hypothyroidism (probably secondary), moderate severity, secondary hyperprolactinemia, amenorrhea.

**Test tasks:**

**Option 1**

1#In the cortex of the adrenal gland produces the hormone, in addition to:

cortisol progesterone

+epinephrine aldosterone

2#Which cells of the pancreas produce insulin

alpha cells

+beta-cells

delta cells

the cells of the acini

3#Which of the following symptoms are unusual for overt diabetes?

polydipsia polyuria

+normoglycemia of

glucosuria

4 # Pathogenesis of polyuria in diabetes mellitus:

+ increased osmotic pressure in the tubules due to glucosuria

decreased osmotic pressure in the tubules due to glucosuria

increased glomerular filtration

5 # Specify the normal fasting blood glucose in mmol / L according to the method

Hagedorn-Jensen: 10-15

1,3-3,1

+4,4-6,6

6,6-7,8

6#For type I diabetes mellitus is uncharacteristic:

hereditary predisposition the

onset of the disease is acute at a young age

+the onset of the disease over 40 years of age in obese individuals

is manifested by pronounced symptoms (thirst, polyuria, weight loss)

7 # Specify the amount of glycemia 2 hours after the" load " of glucose in obvious diabetes

mellitus (in mmol/l):

4.6

5.5

6.4

+11,1

8 # Specify the amount of glycemia in mmol / L at which glucose begins to be excreted

with urine:

8

9

+10

9#What complication of diabetes mellitus is characterized by the expansion of retinal venules, the

development of microaneurysms, hemorrhages, exudates in it?

arterial hypertension macroangiopathy

+ retinopathy neuropathy

10#Glucose tolerance test is indicated in all cases except: fasting

blood glucose 5.7-6.9 mmol/L

persons with obesity and hypertension, chronic pancreatitis in

the presence of diabetes mellitus in blood relatives,

women who have given birth to a live or dead fetus weighing more than 4 kg

+with a double detection of fasting blood glucose greater than 7 mmol/l

11#What kind of coma is characterized by the following signs: pale face, sometimes red-pink skin color, pupils are narrowed, breathing is rare, deep, noisy, soft

eyeballs when pressed, decreased muscle tone of the extremities, the smell of acetone from the mouth?

+hyperketonemic

hypoglycemic

hyperosmolar hyperlactacidemic

Option 2

1#Glucose tolerance test is indicated in all cases except: fasting

blood glucose 5.7-6.9 mmol/L

persons with obesity and hypertension, chronic pancreatitis in

the presence of diabetes mellitus in blood relatives,

women who have given birth to a live or dead fetus weighing more than 4 kg

+with a double detection of fasting blood glucose greater than 7 mmol/l

2#What kind of coma is characterized by the following signs: pale face, sometimes red-pink skin color, pupils are narrowed, breathing is rare, deep, noisy, soft eyes

apples when pressed, decreased muscle tone of the extremities, the smell of acetone from the mouth?

+hyperketonemic

hypoglycemic

hyperosmolar hyperlactacidemic

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development of microaneurysms, hemorrhages, exudates in it?

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+ retinopathy neuropathy

4 # Specify the amount of glycemia in mmol / L at which glucose begins to be excreted

with urine:

8

9

+10

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+the onset of the disease over 40 years of age in obese individuals

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1,3-3,1

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6,6-7,8

8#Pathogenesis of polyuria in diabetes mellitus:

+ increased osmotic pressure in the tubules due to glucosuria

decreased osmotic pressure in the tubules due to glucosuria

the increase in glomerular filtration

9#Which of the following symptoms are unusual for overt diabetes?

polydipsia polyuria

+normoglycemia of

glucosuria

10#Which cells of the pancreas produce insulin

alpha cells

+beta-cells

delta cells

the cells of the acini

11#In the cortex of the adrenal gland produces the hormone, in addition to:

cortisol progesterone

+epinephrine aldosterone

**Practical training on a clinical basis**

Students of 3 people collect anamnesis from thematic patients, get information through questioning, examination, palpation, percussion, auscultation. The scheme of patient supervision in the therapeutic department is described in detail in lesson #4, module 2 (see above).

**List of abstract topics:**

1. Multiple myeloma

2. Chronic leukemia

3. Hemophilia

4. Thrombocytopenic purpura

5. Diagnosis of coagulation disorders

**Topic 18** Final medical history.

**Forms of ongoing monitoring of academic performance:**

-written survey;

-testing

-checking medical records.

**Assessment materials of the current control of academic performance**

**Questions for the written survey:**

**Option 1**

1. List the components of the patient's question.

2. What are the main complaints of patients with lung diseases?

**Option 2**

1. What does the general examination of the patient include?

2. List the main complaints of the heart patient.

**Test task for knowledge control in module 2**

**Option 1**

1. NORMALLY, AN AVERAGE OF URINE IS RELEASED PER DAY:

a) 1000 ml;

b) 700 ml;

c) 1500 ml;

d) 3000 ml;

e) 5000 ml.

2. THE INTERVAL R-R OF THE ELECTROCARDIOGRAM CORRESPONDS TO THE TIME:

a) atrial systole;

b) ventricular systole;

c) diastole of the heart;

d) one complete cardiac cycle.

3. THE RATE OF BILIRUBIN (IN MMOL/L) IN THE BLOOD SERUM:

a) 8.5-30.5;

b) 3.3-5.5;

c) 8.5-20.5;

d) 0-18.

4. THE STATE OF THE ATRIA CHARACTERIZES THE TOOTH:

a) P;

b) T;

c) S;

d) Q.

5. THE NECHIPORENKO TEST IS DETERMINED BY:

a) excretory function of the kidneys;

b) urinary function;

c) filter function;

d) the concentration function.

6. THE EXCRETION OF PROTEIN IN THE URINE IS CALLED:

a) glucosuria;

b) urobilinuria;

c) proteinuria;

d) hematuria.

7. THE SPECIFIC GRAVITY OF URINE IN A HEALTHY PERSON IS IN THE RANGE:

a) 1007-1014;

b) 1020-1025;

c) 1015-1020;

d) 1005-1025;

e) 1020-1030.

8. TO DETERMINE THE SHAPED ELEMENTS, THE FOLLOWING IS PERFORMED:

a) clinical analysis of urine;

b) the sample in General;

c) the sample according to Nechyporenko;

d) bacteriological examination of urine.

9. LAYERED X-RAY EXAMINATION OF THE LUNGS:

a) bronchography;

b) spirography;

c) tomography;

d) chest x-rays.

10. THE STATE OF THE VALVULAR APPARATUS OF THE HEART BETTER REFLECTS:

a) laboratory diagnostics;

b) x-ray examination;

c) ultrasound examination;

d) electrocardiography.

11. THE PORTION " B " OF BILE HAS A COLOR:

a) white;

b) olive oil;

c) light yellow;

d) dark yellow.

12. THE RELATIVE DENSITY OF URINE IN THE GENERAL ANALYSIS IS:

a) 1018-1025;

b) 1007-1010;

c) 1012-1015;

d) 1030-1040.

13. THE NUMBER OF RED BLOOD CELLS IN THE GENERAL ANALYSIS OF URINE (IN THE FIELD OF VIEW):

a) 0;

6) 3;

c) 6;

d) 9.

14. WITH THE SYNDROME OF RENAL FAILURE IN THE BLOOD, THERE IS:

a) an increase in creatinine and urea;

b) increase in creatinine;

c) increased urea;

d) decrease in creatinine and urea.

15. THE DAILY DIURESIS IS 300 ML — THIS IS:

a) anuria;

b) nicturia;

c) oliguria;

d) polyuria.

16. THE NUMBER OF RED BLOOD CELLS IN NORMAL MEN (IN 1 LITER):

a) 4.5-5.0 x 1012;

b) 4.5-5.0 x 109;

c) 6-8x109;

d) 6-8 x 109.

17. THE COLOR INDICATOR REFLECTS:

a) the amount of hemoglobin;

b) the number of red blood cells;

c) the degree of saturation of red blood cells with hemoglobin;

d) the degree of saturation of white blood cells with hemoglobin.

18. THE NUMBER OF WHITE BLOOD CELLS IN THE NORM (IN 1 Liter):

a) 4-9x109;

6) 4-9x1012;

c) 1-2 x 1012

d) 9-12x109.

19. THE CONTENT OF SEGMENTED NEUTROPHILS IN THE LEUKOGRAM IS NORMAL (IN %):

a) 20-40;

6) 47-72;

c) 6-8;

d) 0-1.

20. THE APPEARANCE OF GLUCOSE IN THE URINE IS CALLED:

a) hyperglucosuria;

b) glucosuria;

c) hyperglycemia;

d) hyperproteinemia.

Option 2

1. X-RAY EXAMINATION OF THE KIDNEYS IS CALLED:

a) cholecystography;

b) pyelography;

c) cholangiography;

d) barium enema.

2. INSTRUMENTAL RESEARCH METHODS USED IN CARDIOLOGY:

a) echocardiography;

b) bicycle ergometry;

c) radiography of the thoracic cavity;

d) all answers are correct.

3. IN CASE OF PATHOLOGY IN THE GALLBLADDER, THE PORTION CHANGES:

a) A;

b) B;

c) c;

d) all of the portions.

4. THE CONCENTRATION FUNCTION OF THE KIDNEYS IS DETERMINED BY A BREAKDOWN:

a) according to Zimnitsky;

b) Addis-Kakovsky;

c) Nechiporenko;

d) daily proteinuria.

5. THE STATE OF THE VENTRICLES IS CHARACTERIZED BY:

a) the wave P;

b) the PQ interval;

c) the QRS complex;

d) the RR interval.

6. THE EXCRETION OF WHITE BLOOD CELLS IN THE URINE IS CALLED:

a) bacteriuria;

b) hematuria;

c) the cylinder.;

d) albuminuria;

e) leukocyturia.

7. THE PATIENT EXCRETED URINE IS THE COLOR OF "MEAT SLOPS". NAME THIS SYMPTOM:

a) microhematuria;

b) leukocyturia;

c) bacteriuria;

d) proteinuria;

d) gross hematuria.

8. HIDDEN EDEMA CAN BE DETERMINED BY:

a) the Addis—Kakovsky breakdown;

b) according to Nechiporenko;

c) weighing the patient, measuring the amount of fluid consumed and excreted, and analyzing urine according to Zimnitsky

d) cystoscopy and pyelography;

e) weighing the patient, measuring the amount of fluid consumed and excreted, McClure—Aldrich blister test,

9. SOUND PHENOMENA THAT OCCUR DURING THE WORK OF THE HEART, REGISTERS:

a) bicycle ergometry;

b) phonocardiography;

c) electrocardiography;

d) echocardiography.

10. THE ACID-FORMING FUNCTION OF THE STOMACH IS INVESTIGATED:

a) by duodenal probing;

b) fractional gastric probing;

c) endoscopic examination;

d) x-ray examination.

11. NORMAL RATIO OF DAY AND NIGHT DIURESIS:

a) 3:1;

b) 2:1;

c) 1: 1;

d) 1:2.

12. THE NUMBER OF RED BLOOD CELLS IN THE URINE ANALYSIS ACCORDING TO NECHIPORENKO (IN 1 ML) UP TO:

a) 1 x 103;

b) 3 x 103;

c) 5 x 103;

d) 7 x 103.

13. THE FUNCTIONAL ABILITY OF THE KIDNEYS REFLECTS:

a) the general analysis of urine;

b) the Nechiporenko test;

c) test of General;

d) the Addis—Kakovsky sample.

14. THE DAILY DIURESIS IS 3 LITERS — THIS IS:

a) anuria;

b) nicturia;

c) oliguria;

d) polyuria.

15. THE DAILY DIURESIS IS 40 ML — THIS IS:

a) anuria;

b) nicturia;

c) oliguria;

d) polyuria.

16. THE AMOUNT OF HEMOGLOBIN IN NORMAL WOMEN IS (G / L):

a) 12-16;

6) 80-100;

c) 120-140;

d) 180-200.

17. NORMAL ESR VALUE IN MEN (MM / H):

a) 1-2;

6) 2-10;

c) 20-40;

d) 40-50.

18. THE NUMBER OF PLATELETS IN THE NORM (IN 1 L):

a) 60-80 x 109;

b) 60-80 x 1012

c) 180-320 x 109;

d) 180-320 x 1012

19. TO CONFIRM THE PATHOLOGY OF THE PITUITARY GLAND, YOU SHOULD PERFORM:

a) anthropometry;

6) general blood test;

c) general urinalysis;

d) radiography of the skull bones.

20. THE FASTING BLOOD GLUCOSE LEVEL IS NORMAL (MMOL/L)

a) 1.1-2.2;

b) 3.3-5.5;

c) 6.6-8.8;

d) 8.8-9.9.

**The standard answers**

**Option I**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | c | 11. | b |
| 2. | d | 12. | а |
| 3. | c | 13. | а |
| 4. | а | 14. | а |
| 5. | а | 15. | c |
| 6. | c | 16. | а |
| 7. | d | 17. | c |
| 8. | c | 18. | а |
| 9. | c | 19. | b |
| 10. | c | 20. | b |

**Option II**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | b | 11. | а |
| 2. | d | 12. | а |
| 3. | b | 13. | c |
| 4. | а | 14. | d |
| 5. | c | 15. | а |
| 6. | e | 16. | c |
| 7. | e | 17. | b |
| 8. | e | 18. | c |
| 9. | b | 19. | d |
| 10. | b | 20. | b |

Questions for oral interview, interview

1. Chart of the medical history

2. Practical skills: questioning, examination, palpation, percussion, auscultation.

3. Laboratory and instrumental methods of diagnostics of diseases of internal organs.

Practical training on a clinical basis

The scheme of supervision of a patient on a medical ward

When making a fragment of the medical history, students must adhere to the recommended scheme of patient supervision in the therapeutic department. The medical history should be made clear and consistent, written in the form of a statement. It is necessary to conduct a complete examination of the patient's system by physical methods of research, using for this purpose, in the study of each organ system, in strict sequence, examination, palpation, percussion and auscultation. The text of the medical history should be written in a neat, clear and legible handwriting, without abbreviating words. The following requirements must be met:

\* Accuracy and consistency of presentation;

\* Comprehensive completeness of the necessary information;

\* Clarity of presentation;

• All subheadings of the medical history sections should be highlighted;

• There must be wide margins for the teacher's comments.

Sample

Title page

FSBEI of HE

"OSMA" Health Ministry of Russia

Department of Propaedeutics of Internal Diseases

Head of the Department Professor,

Doctor of Medical Sciences K. M. Ivanov

Teacher\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Medical history

Name of the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Age\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(last name, first name, patronymic)

Diagnosis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Completed by the student\_\_\_\_\_\_\_\_of the group

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(last name, first name, patronymic of the student)

Orenburg, 2020

Name of the medical institution:

Non-governmental health care institution "Department clinical hospital of JSC" Russian Railways " on the station Orenburg

Date of admission of the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Last name, first name, patronymic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Age\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Gender\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Nationality \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Education \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Profession\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Current position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Home address of the patient and close relatives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Who referred the patient\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. The diagnosis that was sent to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Preliminary diagnosis upon admission to the clinic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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12. The final clinical diagnosis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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II PATIENT COMPLAINTS:

List the complaints that the patient himself notes at the time of questioning or noted at the time of admission to the clinic. First, you need to identify the main (leading) complaints, then the general ones. On the basis of the submitted complaints, make an assumption about the defeat of which system is in question (the respiratory system, blood circulation, etc.). Clarify whether there are any other complaints that characterize the pathology of this system, but which the patient did not mention.

It is necessary to specify the complaints.

Complaints with the defeat of the respiratory system

Breathing through the nose: difficulty, complete inability to breathe through the nose, feeling dry, runny nose-nasal discharge (quantity, nature, smell).

Feeling of dryness and pain in the throat when talking, swallowing; voice disturbance (hoarse, lack of voice).

Chest pain: its location, the nature of pain (acute, dull, stabbing, aching, shooting), intensity, duration, the effect on them of movement, body position, breathing and coughing, their irradiation.

Shortness of breath: continuous or periodic, the appearance or increased shortness of breath when walking fast when climbing the stairs, the strength and duration of dyspnea, the appearance or strengthening it in horizontal or vertical position, the nature of dyspnea (expiratory, inspiratory, combined).

Suffocation: the time of appearance, strength, duration.

Cough and its features: persistent or intermittent, dry or with sputum (wet). Sputum departs freely or with difficulty, evenly or after particularly strong attacks; the time of departure (morning, afternoon, evening), the amount (per day and at a time), the smell and color of it, the allocation, depending on the position of the patient.

Hemoptysis: time of occurrence, intensity, pure blood or mixed with sputum, amount of blood, character (liquid or clots), color (scarlet, black, yellow).

Complaints of damage to the circulatory system

Pain in the heart or behind the sternum: the nature (stabbing, squeezing, pressing); strength; duration (constant or paroxysmal); radiation; the conditions under which pain occurs; the behavior of the patient during pain; from what measures the pain calms down.

Heartbeat: constant or intermittent; intensity;" interruptions " in the work of the heart; duration; connection with physical tension, movements, agitation, at rest, after eating, in a horizontal position, when the external temperature changes.

Shortness of breath: (see above).

Edema: their localization, features of appearance (in the morning, in the evening), permanent or disappearing, the intensity of their appearance, the connection with physical stress, fluid intake, heaviness in the right hypochondrium.

Complaints about the defeat of the digestive system

Appetite: good, satisfactory, lack of appetite, greed for food, perversion of appetite. Aversion to food, especially meat, or fast satiety.

Taste: unpleasant taste in the mouth, bitter taste, sweet, lack or perversion of taste.

Dry mouth: when agitated, thirsty, feverish.

Swallowing: painful, loose, impossible, difficult, difficulty swallowing dry or liquid food.

Belching: empty, by air, bitter, sour, rotten, by food; time of its appearance, intensity, duration.

Heartburn: frequency of occurrence, intensity, duration. Does it depend on the intake and type of food?

Nausea: the frequency of occurrence, duration, depends on the type of food, on an empty stomach, with dizziness, when changing the position of the body, balance disorders.

Vomiting: time of occurrence (on an empty stomach, after eating); duration, whether it depends on the type of food, medication. The amount of gastric contents removed by vomiting. The taste of vomit: without taste, sour, bitter. The nature of vomiting: indigestibility, pieces of food eaten long before vomiting, foamy vomit, their yellowish-green color from the admixture of blood to the vomit, in what quantity and form (unchanged or altered blood), vomiting with pure blood, in the form of coffee grounds, vomiting yellow or dark brown with a fecal smell. Relief after vomiting.

Unpleasant sensations in the epigastric region: their appearance from any food or depending on the type of food, the quality or quantity of food.

Pain in the epigastric region: localization and nature of pain, intensity.

Radiating pain: drilling pain in the epigastric region, radiating to the spine, radiating to the right shoulder blade, to the right shoulder. The conditions under which pain occurs: the relationship with the nature, quantity and quality of the food taken. Pain in the epigastric region, depending on the food, regardless of the food. How long after a meal there is pain (pain on an empty stomach or "hunger pains", night pains).

Duration of pain: whether the pain passes after eating food or liquid, taking soda, after vomiting or gas discharge. The effect of changes in body position and movement on the strengthening, weakening and cessation of pain.

The frequency of pain: the duration of light intervals, the time of year (autumn, winter, spring, summer).

What is accompanied by pain: nausea, vomiting, fever, headaches, delayed stools or liquid stools, gas retention, the appearance of tar-like stools.

Abnormal feeling in the abdomen: bloating, feeling of transfusion, rumbling. The pain is sharp, cutting, dull, aching, constant, cramping.

Stool: the number of bowel movements, if the stool is not daily, then after how many days. The action of the intestine is independent, with an enema or laxatives. Feeling of incomplete emptying. Diarrhea with an indication of the frequency of bowel movements. Change of diarrhea by constipation. Involuntary bowel movement. Pain during the act of defecation. Tenesmus. Itching in the rectum. Rectal prolapse.

Stool: decorated, mushy, liquid, solid, nuts — "sheep" feces, color. An admixture of blood and mucus.

Discharge of gases: free, moderate, plentiful, odorless, with a sharp smell.

Complaints about the defeat of the urinary system

Lower back pain: left, right, constant or intermittent nature of the pain — dull, nagging, aching, cramping; under what conditions, pain — a long walk, jump, bumpy ride, cooling, agitation. What makes them stronger? Radiation of pain — in the course of the ureters, to the bladder, in the urethra.

Urination: voluntary, free, difficult, painful, rapid. Increased frequency during the day or at night. Pain when urinating-emitting in the bladder; pain, pain, burning in the urethra. Pain at the beginning, during, and at the end of urination. Change in the flow of urine (intermittent, drop-by-drop, weak). Urinary incontinence. The daily amount of urine.

Urine: color, transparency, sediment, admixture: pus, mucus, blood. Hematuria (at the beginning, during urination, at the end).

General: impaired vision, palpitations, shortness of breath, swelling of the eyelids, face.

Complaints about the defeat of the hematopoietic system

Pain: in the throat, bones, right or left hypochondrium, their nature.

Bleeding: bleeding from the nose, gums, gastrointestinal tract, uterus, and other organs. Itchy skin. Fever.

Detection of intoxication: (lead, mercury, amidopyrine, butadion, sulfonamides) and radiation damage. Heredity.

Complaints about the defeat of the endocrine system and metabolic disorders

substances

Weakness, weight loss, obesity, thirst, appetite, fever, increased excitability, sleep disturbance, trembling in the body, discoloration of the skin, dry skin or sweating.

Complaints of damage to the musculoskeletal system and joints

Pain in the bones of the limbs, joints, and muscles. Movement in the joints (free, limited). How often do they escalate, what is the reason for the exacerbation? Is it accompanied by redness of the joints, is there a crunch in the joints? Muscle strength, time of appearance, its weakening.

Complaints that characterize the general condition of the patient

Well-being, malaise, fatigue, decreased ability to work, chills, chills, sweating, feeling hot, fever, weight loss, weight gain (it is necessary to specify to what extent and for how long?).

III. HISTORY OF THE PRESENT DISEASE

The section should reflect the time of occurrence of the disease and the dynamics of development before the start of curation. It is especially important to identify the symptoms, which, to some extent, allows you to decide whether the disease is acute or chronic. Through appropriate questions, it is necessary to find out: the beginning of the disease (when and how it began-suddenly or gradually), what were its manifestations, its further course (progressive or intermittent, for chronic diseases, the duration of periods of exacerbations, relapses, remissions).

It is necessary to establish the causes and reasons for the present deterioration of the disease (severe nervous tension, injuries, physical overload, eating errors, colds, and others).

Did you go to the doctor, was he treated and with what result, what additional tests were carried out (blood tests, urine tests, ECG, X-rays, etc.)? What diagnoses were made by the attending doctors?

Characteristics of the period preceding the present request for medical care (deterioration of the disease, the appearance of new symptoms, etc.). By

whom is the patient referred to the hospital? The nature of hospitalization (emergency, planned).

Work-expert history: whether and when the certificate of disability was issued at the time of admission to the hospital, how many days of disability.

IV. HISTORY OF THE PATIENT'S LIFE

The question about the patient's life should begin with general biographical information: time and place of birth (geographical area), place of residence, if he changed them during his life.

Social history: the family environment in which he was born; the age of the parents, the previous illnesses. School years: when did you start studying, how did you study (how easy or difficult was it to learn), how long did you study? Did you do physical education and sports at school? General and special education of the patient. For men, service in the army.

Professional history: the beginning and nature of the work of a lifetime, professional harms in the past. Current working conditions (duration, mental or physical, night or day work). Characteristics of the working room (lighting, temperature, drafts, dust, presence of harmful substances). Use of days off, holidays. Living conditions.

Past illnesses, operations, injuries: their duration and severity, complications, ongoing treatment (in hospital, at home, outpatient, sanatorium-resort). Pay attention to venereal diseases, tuberculosis, viral hepatitis, HIV infection.

Family history: married, married, since when. For women, the beginning of menstruation, the nature and cycle of them. Pregnancies and births, stillbirths, abortions, their number, the cause of complications. Are there any living children, how many?

Heredity: it is necessary to find out the state of health of close relatives: father, mother, grandparents, sisters and brothers of the patient, children and grandchildren, sisters and brothers of the father and mother (if they died, at what age and from what causes).

Pay attention to diseases that especially affect the offspring: syphilis, tuberculosis, neuropsychiatric diseases, metabolic diseases, blood diseases, alcoholism, neoplasms.

Epidemiological history: find out whether there was contact with infectious patients (in the family, school, among neighbors, colleagues, etc.). Did you come in contact with sick animals? Ask where the patient eats (in the dining room, buffet, at home, what kind of water he uses (raw, boiled, from the water supply or from other sources). Whether he went to other cities or districts. Did any sick people come to the family from other places of residence?

Have you noticed any recent fever, vomiting, or stool disorders?

Allergic history: drug intolerance: the presence of itching, various rashes, swelling of the face after taking antibiotics and other medicinal products, food intolerance, seasonal appearance of a runny nose and lacrimation during the flowering of wormwood, ragweed, poplar.

Unhygienic bad habits: smoking (from what age he smokes and how many cigarettes a day), the use of alcoholic beverages and drugs (frequency, quantity, how he tolerates them).

Blood transfusion history: whether blood and blood substitutes were transfused, for what reason, how many times and in what quantity, whether there were complications on transfusions and how they were manifested. Whether the patient is a donor?

V. CURRENT STATUS

General examination of the patient (the section is described in detail in the training manual "Examination")

General condition: satisfactory, moderate, severe, very severe, agonal.

Consciousness: clear, stuporous (numbness), soporose (torpor), comatose.

The patient's position: active, passive, forced.

Body type: (constitution); asthenic, normosthenic, hypersthenic. Height. Weight (body weight). Body mass index (BMI = weight kg / height m2). Posture. Gait.

Body temperature: normal, low-grade, high.

The respiratory system

Chest unchanged: normosthenic (conical), hypersthenic, asthenic.

The chest is pathological: emphysematous (barrel-shaped), paralytic, rickety (keeled, chicken), funnel-shaped, navicular.

Chest deformity in curvature of the spine: scoliosis, kyphotic, lordotic, kyphoscoliotic.

Asymmetry of the chest.

Type of breathing: chest, abdominal or mixed. Respiratory rate (number of respiratory movements per minute). The depth of breathing is deep, shallow.

Breathing rhythm: rhythmic, change in rhythm with deep breathing (Kussmaul's breathing), with lengthening of the inhale (inspiratory shortness of breath), with lengthening of the exhalation (expiratory shortness of breath).

Periodic respiration: Biota, Cheyne-Stokes, Grokka.

Description of the results of chest palpation: corresponds to gender and age, painless, local or diffuse soreness. Soreness at the Georgievsky-Musset point (when pressing between the legs of the sternocleidomastoid muscle at the site of the projection of the diaphragmatic nerve). Soreness in the intercostal spaces. Pain when pressing on the ribs. Increase or decrease in pain when the patient is tilted to the healthy side. Elasticity (elastic, rigid). Changes in the voice tremor (gain, decrease, symmetry). The noise of pleural friction or the sound of fluid splashing in the pleural cavity.

Description of the results of lung percussion.

Topographic percussion in the patient's standing and sitting position.

|  |  |  |
| --- | --- | --- |
| Identification lines | Right lung,  intercostal space | Left lung,  intercostal space |
| Parasternal  Midclavicular  Anterior axillary  Middle axillary  Posterior axillary  Spatula  Paravertebral |  |  |

Is there a shift of the lower pulmonary margin downwards or upwards, a mixture of the anterior (inner) edges of the lungs inwards and outwards? Specify the height of standing of the tops of the lungs in front and behind, the width of the Krenig margins. Is there a decrease in the standing height of the tops of the lungs and a narrowing of the Krenig fields?

Indicate the active mobility of the lungs along the midclavicular line, the middle axillary and scapular lines, the possible restriction or complete absence of active mobility in the patient.

Comparative (high-quality) percussion. The presence in the lungs of a clear pulmonary sound, dull, blunted, tympanic (box) or metallic sounds, their localization.

Description of the results of lung auscultation. Specify the type of breathing: vesicular (alveolar) breathing, vesicular breathing with prolonged exhalation, hard breathing, bronchial breathing (amphoric, metallic), bronchial-vesicular breathing.

Specify whether the wheezes are heard and what: dry wheezes — low-pitched (buzzing), high-pitched (whistling); wet wheezes — sonorous, inaudible, large-, medium-, small-bubbled; crepitation initial, final; noise of pleural friction. Is there any bronchophonia?

The system of the circulatory system

Describe whether there is a heart hump, a general bulge of the heart area, an apical push, a negative apical push, a cardiac push?

Describe the pulsation of the subclavian, brachial, radial, and other arteries; capillary pulse.

Describe if there is an expansion of the veins of the head, neck, upper and lower extremities, anterior surface of the trunk; pulsation of the jugular veins (positive and negative venous pulse).

Describe the pulse: frequency, rhythm, tension, filling, size, shape.

Description of the results of palpation of the heart and blood vessels. In the description of the apical impulse to specify:

1. - localization;

2. - area;

3. - power;

4. - displacement of the apical push, associated and unrelated to the change in the position of the body;

5. - the presence of "cat purring" in the area of the top of the heart, at the base of the heart.

Description of the results of percussion of the heart and large vessels

Describe the boundaries of the relative dullness of the heart: the

right border - in the III, IV intercostal space;

the left border is in the III, IV, and V intercostal spaces.

Specify the size of the diameter of the heart.

Describe the limits of the absolute dullness of the heart.

Absolute cardiac dullness: the

right border - in the IV intercostal space, the left border - in the V intercostal space, the upper border - at the level of the IV rib, above, below.

Specify the width of the vascular bundle in the II intercostal space.

Describe the results of auscultation of the heart and large vessels.

Specify which heart tones: rhythmic, arrhythmic, clear, loud,muted, muffled, heart rate. Attenuation or amplification of both tones. Attenuation of the first tone, attenuation of the second tone. Changing the timbre of the heart tones: flapping, first tone, metallic tone tone, dull first top," velvet " tone, rattling first tone. Split tones. Additional notes: the third and the fourth tone. Gallop rhythm (protodiastolic, mesocestoides or presystolic gallop). The rhythm of the quail.

Describe whether there are noises during auscultation of the heart? Systolic murmur. Diastolic murmur (protodiastolic, mesocestoides, presystolic). The point of maximum noise volume. Locations of heart murmurs. Timbre color (soft or blowing, rough or scratching, sawing). Blood pressure (BP) in mmHg.

Auscultation of the carotid and subclavian arteries — the first and second tones. The femoral artery is the first tone. Double Traube tone and double Vinogradov-Durosier noise on the femoral artery, on the brachial and radial arteries. The noise of the gyroscope on the right jugular vein when turning the head to the left.

The system of digestive organs

Describe the condition of the oral mucosa — the presence of ulcers, pigmentation, hemorrhages, spots. Changes in the gums (looseness of the gums, their bleeding), the condition of the teeth.

To characterize the tongue: the increase in the size of the tongue, the color of the tongue, the coating, the condition of the papillae, the presence of ulcers (the tongue is clean and moist, gray-white, crimson, bad-smelling, dry, atrophic).

Bad breath (putrid, acetone, uremic, hepatic). Phenomena of angular stomatitis — inflammation of the mucous membrane and skin in the corners of the mouth. Cracked lips (zaeda).

Description of the abdomen. Features of the skin of the abdomen and the degree of development of subcutaneous fat. An increase in the size of the abdomen due to obesity, ascites, flatulence, the presence of a tumor, an increase in the liver, spleen, and lymph nodes. The unevenness of the increase in different parts of abdomen. The presence of hernial protrusion: umbilical hernia, expansion of the umbilical ring, postoperative ventral hernia, hernia of the white line of the abdomen.

Expansion of the venous network in the anterior abdominal wall ("medusa's head").

Description of the results palpation of the abdominal wall and abdominal organs. Surface, approximate palpation of the anterior abdominal wall-to determine the general and local soreness, the degree of muscle tension (defans), enlarged organs (liver, spleen), the presence of a hernia.

Using deep, sliding, topographic and methodical palpation according to Obraztsov-Strazhesco, give a description of the palpable areas (list sigmoid, blind, transverse colon, etc.): soft, painless.

In the presence of pathology, describe: what part of the intestine is dense, painful, motionless, rumbling, lumpy, strongly peristaltic, accumulation of liquid contents and gas.

Stomach-the possibility of palpatory determination of large and small curvature.

Pancreas - normally, palpation is not determined, but with superficial and deep palpation, there may be painlessness in the right and middle parts of the epigastrium, muscle tension.

Liver-features of the lower edge-shape (smooth, uneven), consistency (dense, soft), shape (pointed, rounded), soreness. Localization of the lower edge of the liver in relation to the costal arch. The surface of the liver is smooth, uneven, large-or small-nodular.

Description of the results of percussion of the abdominal organs

Specify the large, medium and small sizes of hepatic dullness according to Kurlov in centimeters.

Description of the results of auscultation of the digestive organs. Peristaltic

noise (periodic rumbling of the intestine, strengthening or weakening of its peristalsis, complete disappearance of peristalsis).

The system of urinary organs

Describe the presence of edema and its nature: local (localization) or general edema, soft or dense, changes in the skin above the area of edema.

Indicate whether there is swelling of the lumbar region (paranephritis), swelling of the abdominal wall (kidney tumor), swelling in the bladder (overflow).

Description of the results of palpation of the kidneys and bladder: the possibility of palpatory determination of the kidneys in the standing and lying position; the possibility of palpation of the bladder over the pubis, depending on the accumulation of urine in it. Determination of pain when pressing on the lower back in the area of the projection of the kidneys and palpation along the ureter.

Description of the results of percussion of the kidneys and bladder: Pasternatsky's symptom (negative, positive). Definition of percussion sound above the pubic area (filled or empty the bladder).

Auscultation of the renal arteries: whether the noise is heard over the area of the renal arteries.

Hematopoietic system

Describe the lymph nodes: the degree of enlargement, consistency, soreness, mobility, their solidity with the skin, the degree of generalization (spread) of the enlarged lymph nodes.

To assess the possibility of palpatory determination of the spleen - in the position of the patient on the back and on the right side. Describe the consistency, shape, shape, and soreness.

Specify the percutaneous dimensions of the spleen by X intercostal space (the Shelagurov method) in centimeters.

The system of the endocrine glands

Describe if there is a deformity of the contours of the neck, an increase in the thyroid gland. The nature of the increase (diffuse increase, increase in individual lobes or the isthmus of the thyroid gland). The degree of enlargement of the thyroid gland (0, I, II art.) according to WHO. Features of the consistency (soft-elastic, dense), its displacement and painfulness during palpation. Eye symptoms (exophthalmos, asymmetry of the eye slits, Grefe, Stehlwag, Kocher, Moebius symptom). Tremor of the outstretched fingers. The "telegraph pole" symptom. Listening to tones and noises in hyperfunction (systolic " top " noise in auscultation of the thyroid gland).

Musculoskeletal system

Describe the development of the musculature (well developed or flabby), pain during palpation, local atrophy of the musculature, involuntary muscle contractions (convulsions), the presence of solid ovoid formations inside the muscle (ossifying myositis). Describe if there are curvatures, protrusions and other deformities of the bones, growths of the peripheral bones of the extremities (Giberden nodules, Bouchard, "drumsticks"), rickety changes, the presence of bone fistulas, gangrene of the fingers.

To assess the pain in the bones when pressing, especially on the body of the sternum, on the IV and V ribs, the tibia. Indicate if there is a change in the configuration of the joints, swelling, redness, a feeling of crunching and fluctuation in the joint cavity, a violation of the volume of active movements. Is there flat feet?

If present, describe palpatory soreness in the spine: increased soreness with pressure on the affected joint or paravertebral points. Restriction of the volume of movements in the spine.

VI. LABORATORY AND INSTRUMENTAL DATA

(indicate changes in laboratory and instrumental data in accordance with the nosology)

1. General blood test.

2. The General analysis of urine.

3. Biochemical blood analysis (C-reactive protein, serum proteins, fibrinogen, total cholesterol and its fractions, serum enzymes, clotting parameters, creatinine, urea, blood glucose, bilirubin, thymol test, alkaline phosphatase)

4. LE-cell phenomenon. Rheumatoid factor. Determination of the level of hormones in the blood serum.

5. Glycemic and glucosuric profile; glucose tolerance test, glycated hemoglobin.

6. Determination of glucose and acetone in the urine, microalbuminuria. The Zimnitsky test. Urine tests on Nechiporenko and Addis-Kakovsky.

7. Results of the study of pleural punctate and ascitic fluid.

8. Data from gastric and duodenal studies. PH-metry of the stomach.

9. Data of ECG, spirography, ECHO – KG, Holter daily ECG monitoring, daily blood pressure monitoring.

10. X-ray and X-ray data.

11. Endoscopic data (FGDS, FCS, FBS).

12. Results of biopsy and cytological examination.

13. The ultrasound of the abdominal organs and the thyroid gland.

VII. JUSTIFICATION OF THE SYNDROMES IDENTIFIED IN THE PATIENT

DISEASES

The respiratory system. Syndromes: bronchospastic, infiltration, cavities in the lung, increased airiness of the lung tissue, bronchial obstruction, the presence of gas and fluid in the pleural cavity, respiratory failure.

The circulatory system. Syndromes: arrhythmic, conduction disorder, acute heart failure, chronic heart failure, violation of intracardiac hemodynamics, arterial hypertension or hypotension, hypertension of the small circle of blood circulation, acute vascular insufficiency.

The digestive system. Syndromes: "Acute abdomen", intestinal colic, gastric or intestinal bleeding, gastric or intestinal dyspepsia, malabsorption and exudative enteropathy, jaundice, portal hypertension, hepatic insufficiency, hepatic coma, hepato-lienal.

The system of urinary organs. Syndromes: edematous, nephrotic, urinary, hypertensive, eclampsia, acute and chronic renal failure, uremia.

The system of hematopoietic organs. Syndromes: anemic, leukemoid, hemorrhagic, hypersplenism.

The endocrine system. Syndromes: diabetic and hypoglycemic coma. Acute adrenal insufficiency. Obesity. Cachexia.

Musculoskeletal system and joints. Syndromes: articular, myopathic, Raynaud's.

**The text of the medical history should be written in a neat, clear and legible handwriting, without abbreviating words. The following requirements must be met:**

1. Accuracy and consistency of presentation;

2. Comprehensive completeness of the necessary information;

3. Clarity of presentation;

4. All subheadings of the sections of the medical history should be highlighted;

5. There must be wide margins for the teacher's comments;

6. A student who has received an unsatisfactory assessment for the medical history must rewrite it, taking into account the teacher's comments;

7. A student does not receive a credit if he has not passed the medical history or received an unsatisfactory grade for it.

**Topic 19** Symptomatology and methods of diagnosis of acute allergoses (urticaria, Quincke's edema, anaphylactic shock). Emergency care for anaphylactic shock.

**Forms of current control of academic performance oral survey, testing, solving situational problems.**

**Assessment materials of the current control of academic performance**

**Questions for the oral survey**

1. Acute allergic reactions (urticaria, Quincke's edema, anaphylactic shock). Etiology, pathogenesis, symptoms.

2. Principles of treatment of acute allergoses.

3. Emergency care for anaphylactic shock.

2. Test tasks:

#The main pathogenetic link of Quincke's edema is:

+ increased permeability of the vascular wall vascular

spasm of the microcirculatory bed

hemolysis of red blood cells

decreased oncotic blood pressure

#In the treatment of urticaria and angioedema, all of the following

methods are used, except:

glucocorticosteroid drugs (prednisone, hydrocortisone)

+a-adrenomimetics (norepinephrine)

elimination of causal factors

treatment of major diseases

H1-histamine blockers

# The initial symptoms of anaphylactic shock are

chest tightness, shortness of breath,

tachycardia,

anxiety, and a feeling of fear

+all of the above

none of the above

# Anaphylactic shock may occur:

with parenteral administration of drugs when drugs get on

the mucous membranes

from an insect bite

+all of the above

none of the above

#The first stage of resuscitation in anaphylactic shock is:

introduction of cardiac glycosides oxygen

therapy

+ stopping the intake of the allergen into the body the

introduction of angiotonic agents

#In the treatment of anaphylactic shock, all drugs are used, except:

antihistamines glucocorticosteroids

+diuretic vasopressors

# Anaphylactic shock is a manifestation of allergic reactions:

delayed type (allergic reactions)

+ immediate type (reagin reactions)

cytotoxic

immunocompetent

#For the clinical manifestations of Quincke's edema, everything is characteristic, except:

swelling of the lips

swelling of the larynx

swelling around the eyes

+edema of the lower extremities

#When providing emergency care for angioedema, it is used:

10% solution of calcium gluconate

parenteral administration of antihistamines

intravenous administration of glucocorticoid hormones

+all of the above

# A characteristic sign of urticaria is: laryngeal

edema

tachycardia

+the appearance of a skin rash, accompanied by itching

hemorrhagic rash

3. Texts of situational tasks (typical)

**Task 83**

Female, 25 years old. She was admitted to the hospital in a serious condition. There is a painless growing swelling in the area of the lips, cheeks, and around the eyes. It has a dense (the surface of the skin is not pressed when pressed on it) character. The skin above the edema retains its original color. There is a hoarseness of the voice, a "barking" cough, increasing difficulty breathing with shortness of breath. The complexion first had a bluish tinge, then abruptly pales. Examination of the throat mucosa in the patient revealed puffiness of the soft palate and palatine arches, narrowing of the lumen of the pharynx. Diagnosis?

Answer: Quincke's edema.

**Task 84**

The patient is 47 years old. Takes antibiotics. Complains of sudden, profuse rashes, located on the trunk, upper and lower extremities. Blisters are characterized by juiciness, a rich pink color with a mother-of-pearl hue and intense itching, burning. The elements of the rash are slightly raised above the level of unaffected skin. With an abundant amount of elements on certain areas of the skin, blisters merge into extensive foci with uneven polycyclic edges. There is a subfebrile temperature with chills, gastrointestinal disorders (diarrhea), biliary dyskinesia, a neurotic state. Vesicles, papules are absent. Diagnosis?

Answer: Medicinal urticaria, severe form.

**Topic 20** Final lesson. Testing. Reception of practical skills in physical research methods and emergency conditions.

**Forms of current performance monitoring**

-oral survey,

- testing,

- reception of practical skills.

**Assessment materials of the current control of academic performance**

**Questions for the oral survey:**

1. Practical skills: palpation, percussion, auscultation in patients with

various therapeutic pathologies.

2. Practical skills: questioning, examination, palpation, percussion, auscultation.

3. Laboratory and instrumental methods of diagnostics of diseases of internal organs.

4. Assistance in emergency situations in the propaedeutics of internal diseases.

**Test tasks (final testing):**

U1 Propaedeutics of internal diseases, radiation diagnostics.

U2 Direct research methods in propaedeutical practice.

U3 Introduction to propaedeutics of internal diseases. Questioning, as a method of medical research.

# Which method should be called a subjective survey method:

+questioning of the patient (or his relatives)

examination of the patient

palpation

percussion

# Expiratory shortness of breath is:

it's hard to breathe

+hard to exhale

hard to inhale and exhale

hard to breathe lying down

# Inspiratory shortness of breath is:

+hard to breathe

it's hard to breathe

it's hard to inhale and exhale

difficulty breathing lying down

# Symptoms of heart disease:

pain, swelling, irritability

palpitations, pain, drowsiness

+pain, palpitations, swelling

edema, palpitations, anorexia

# A symptom that is not typical for gastric bleeding:

vomiting with an admixture of blood;

black tar-like chair;

+cyanosis;

pallor of the skin

# Persistent skin itching is characteristic of: heart

disease lung disease

+liver

disease blood disease

# Night diuresis prevails over day diuresis. Name this symptom:

+nocturia

pollakiuria

oliguria

ischuria

# Sputum with pulmonary edema:

mucosa

mucopurulent purulent

+bloody serous

# The patient has frequent urge to urinate with the release of a small amount of urine each time. Name this symptom:

oliguria

dysuria

nicturia

ischuria

+pollakiuria

# Frequent painful urination is:

anuria

+dysuria

oliguria polyuria

# Edema in heart diseases:

appear in the morning hours

they are localized on the face and

shift when the patient's body changes

+localized on the feet, shins

# Gastric bleeding is accompanied by:

+vomiting in the form of "coffee grounds"

flatulence

vomiting on the eve of the eaten food

discolored feces

# The excretion of urine in an amount of 300 ml per day is called:

nycturia

anuria

polyuria

+oliguria pollakiuria

# Petechial rash appears in violation of: red blood cells white blood

cells

eosinophils

+platelets

# A typical complaint of diabetic patients is:

shortness of breath

+ thirst

brittle nails

increased irritability

" tearfulness"

U3 General inspection. Private inspection of systems and organs.

# The patient asks for help, moans because of a sharp pain in the right hypochondrium, radiating to the right forearm, notes repeated vomiting, chills, fever up to 40° C, is extremely restless, does not find a place for himself, the tongue is dry, covered. Determine the patient's condition:

satisfactory

+moderate severity

severe terminal

# The patient is inhibited, comprehension of the questions asked is difficult (answers them late, after repeated repetition of the question), is indifferent to everything, refuses to eat. Determine the patient's condition:

+stupor (a state of stun)

stupor

coma

fainting delirium

# Male, 63 years old, height 165 cm, weight 93 kg, stocky, dense. The abdomen is of considerable size, the limbs are short. Determine the constitutional type of the patient:

normosthenic

+hypersthenic hyposthenic

# Bright red palm are:

if you have kidney disease

diseases of the stomach

+liver

disease gallbladder disease

# "The head of the jellyfish" is:

+varicose veins of the anterior abdominal wall

varicose veins of the back of the abdominal wall

varicose veins of the lower extremities

veins of the upper extremities

# Pathological form of the chest:

asthenic

+barrel-shaped

hypersthenic normosthenic

# Rare deep noisy breath is the breath:

Biota

Grocka

+Kussmaul

Cheyne-Stokes

# When examining the heart area, you can identify:

+pulsation of the apical push

heart

size vascular bundle size

a symptom of "cat purring"

# Acrocyanosis is characteristic of

liver failure

kidney failure

+heart failure

respiratory failure

# Diffuse cyanosis is characteristic of:

liver failure

kidney failure

heart failure

respiratory failure

# Edema of renal origin first appears:

on the legs lower

back and

arms

+face

# Bronze color of the skin is observed in the pathology of the

pituitary gland

+adrenal glands of the

pancreas

thyroid gland

# "Frog" belly is characteristic of:

+ ascites

obesity

pregnancy

flatulence

# With anemia, the skin:

+pale

hyperemic

cyanotic icteric

# The first appearance of jaundice is noted on:

hands and

feet

+sclera of the eyes

trunk

neck

U3 Palpation, as a method of medical examination.

# The attenuation of voice tremor is determined when:

+emphysema of the lungs

bronchitis

pneumonia

compression atelectasis syndrome

# Increased voice tremor is typical for:

hydrothorax

+lung abscess in the stage of cavity

emphysema of the lungs

complete obturation atelectasis

# Normally, the apical push is located:

in the IV intercostal space, 1.5 cm inside of the left mid-clavicular line

+in the V intercostal space 1.5 cm inside of the left mid-clavicular line

in the V intercostal space along the left mid-clavicular line

in the IV intercostal space, 1.5 cm inside of the left mid-clavicular line

# The area of the apical push is normally:

0.5 cm

4cm

+2 cm

6cm.

# At what stage of croup pneumonia does the voice tremor increase: resolution

stages compaction

stages high tide stages

# Palpation "maskoobraznym" belly characteristic:

chronic gastritis

stomach ulcer disease

+perforated stomach ulcer

# The symptom of "systolic" tremor is characteristic of:

+stenosis of the aortic mouth

mitral stenosis of

mitral insufficiency

# Deficiency pulse palpation is determined when:

+atrial fibrillation

sinus tachycardia

sinus bradycardia

# Palpation "splashing" is typical for the following pathologies:

+stenosis of the pylorus

erosive gastritis

peptic ulcer of the duodenum

# The symptom of "two hammers" is determined by palpation when:

+mitral insufficiency

aortic stenosis

mitral stenosis

# The hernia of the" white " line of the abdomen is palpated by using:

+ indicative palpation

deep palpation

thrust palpation

# The stages of deep palpation do not include:

setting the hand

set the skin fold

+immersion on the inhale

immersion on the exhale

sliding

# The cecum is palpated:

in the right iliac region

in the left iliac region

in the suprapubic region

at the level of the navel on both sides of the median line

# On palpation, the positive Shchetkin-Blumberg symptom is characteristic of:

+the syndrome of "acute abdomen"

stenosis of the pylorus

stomach and duodenal ulcer

# The displacement of the apical push to the left is observed when:

+left ventricular

hypertrophy right ventricular

hypertrophy left atrial hypertrophy

U3 Percussion, as a method of medical research.

# When tapping the chest above the intended area of the heart, percussion sound:

clear pulmonary

+blunt, blunted

box

tympanic

# When tapping the lower parts of the chest of a patient with emphysema of the lungs, the percussion sound:

blunted

dull

+boxed tympanic

# When the chest is tapped over the emptied lung cavity (lung abscess cavity or cavern in pulmonary tuberculosis), a percussive sound is expected:

blunted

dull

clear pulmonary

+tympanic

# Comparative percussion of the lungs is performed to determine:

boundaries of light

+the presence of a pathological focus of

mobility of the lower pulmonary margin

# What percussive sound is obtained over healthy lungs:

tympanic

+clear blunt

blunt

# The left contour of the stupidity of the heart is formed by:

+the left side of the aortic arch, pulmonary trunk, left atrium and left ventricle

the left side of the aortic arch, left atrium and left ventricle

the left side of the aortic arch and the left ventricle

left ventricle.

# Which part of the heart is formed by absolute cardiac dullness:

left ventricle

left atrium

+the right ventricle with the

right atrium.

# The diameter of the heart is equal to:

2-4 cm

6-7 cm

+11-13 cm

1 cm

# Where is the right border of relative cardiac dullness in the IV hypochondrium:

at the edge of the sternum

4 cm outwards from the edge of the sternum

+ 1-2 cm outward from the edge of the sternum

along the left edge of the sternum

# The left border of the heart is formed by: the

tip of the right ventricle the

tip of the left ventricle the

left atrium

+left atrium and ventricle

# What percussive phenomena are characteristic of stage 2 croup pneumonia:

clear pulmonary sound

tympanic sound

+dumb sound

# The diameter and length of the spleen is normally equal to:

+4-6 and 6-8 cm

3-4 and 5-7 cm

5-7 and 9-10 cm

# The smoothness of the "waist" of the heart occurs when:

+ mitral stenosis

aortic stenosis

aortic insufficiency

# With percussion of the lungs, the Elisa-Damoiseau line is determined:

hydrothorax

pneumothorax

+exudative pleurisy

# The border of absolute cardiac dullness is increased in:

+right ventricular

hypertrophy left ventricular

hypertrophy right atrial hypertrophy

U3 Auscultation as a method of medical research.

# The auscultation method was first discovered:

By auenbrugger

+Lancom

By corvisart

Botkin

# Bronchial breathing is heard:

on the inhale on

the exhale

+on the inhale and exhale

on the inhale and the first third of the exhale

# In emphysema of the lungs, breathing:

vesicular

bronchial

hard

+vesicular weakened

# Dry rales are formed when:

the walls of the alveoli break apart

+swelling of the bronchial mucosa and their spasm the

presence of liquid sputum in the lumen of the bronchus

infiltration of lung tissue.

# Why does the number of bass dry wheezes decrease after coughing:

bronchospasm decreases

, edema of the bronchial mucosa decreases

+the viscous sputum clears up

# Bronchial respiration of the "amphoric" type is listened to:

+ cavities in the lung, communicating with the bronchus

emphysema of the lungs

obturation atelectasis

hydrothorax

# Systolic murmur above the apex of the heart is characteristic of:

+mitral valve

insufficiency aortic valve insufficiency

mitral stenosis

aortic stenosis

# Normally, breathing is heard above the pulmonary fields:

bronchial

+ vesicular

weakened pulmonary

# When the lung tissue is compacted, respiration is determined:

weakened vesicular

+bronchial

rigid bronchovesicular

# Bronchial breathing is heard:

on the inhale on

the exhale

+on the inhale and exhale

on the inhale and the first third of the exhale

# During auscultation, crepitation is heard:

only on the inhale

only on the exhale

on the inhale and exhale

# For what purpose is an additional technique used for auscultation of the lungs – pressing a stethoscope on the chest:

+to distinguish pleural friction noise from crepitation and wheezing

to detect latent bronchial obstruction

to distinguish dry wheezing from wet wheezing

to distinguish wheezing from crepitation or pleural friction noise

for better listening to abnormal bronchial breathing

# What causes the appearance of wet small-bubble non-ringing wheezes:

viscous sputum in large bronchi

viscous sputum in small bronchi and/or their spasm

liquid sputum in large bronchi or cavities communicating with the bronchus

+ liquid sputum in small bronchi with preserved airiness of the surrounding lung tissue

liquid sputum in small bronchi and inflammatory compaction of the surrounding lung tissue

# Amplification of the I tone at the apex of the heart (clapping) occurs in:

mitral valve

insufficiency aortic valve insufficiency

+mitral stenosis

aortic stenosis

# The rhythm of the gallop meets:

+severe heart damage

mitral valve prolapse

arterial hypertension

# The patient has cardiac asthma, on the basis of the heart is listened to:

accent of the second tone on the aorta

+ accent of the II tone on the pulmonary trunk

attenuation of the II tone on the aorta

attenuation of the II tone on the pulmonary trunk

# A student at auscultation of a patient with chest pain listened to noises in both phases of breathing, resembling the crunch of snow underfoot. What is the name of this auscultative phenomenon:

+ noise of pleural friction

crepitation

dry wheezing

wet wheezing

bronchial respiration

# In which heart defect is the "rhythm of the quail" heard:

mitral insufficiency

+with mitral foramen stenosis of

aortic insufficiency

U2 Laboratory and instrumental research methods.

# The state of the atria characterizes the prong:

+P

T

S

Q

# The state of the ventricles characterizes:

prong P

interval PQ

+the QRS complex

the RR interval

# The R-R interval of the electrocardiogram corresponds in time to: atrial

systole ventricular

systole heart diastole

+one full cardiac cycle

# Instrumental research methods used in cardiology:

echocardiography bicycle

ergometry

radiography of the chest cavity

+all answers are correct

# The norm of bilirubin (in mmol/l) in the blood serum:

8.5-30.5

3,3-5,5

+8,5-20,5

0-18

# In case of pathology in the gallbladder, the portion changes:

A

+B

C

all portions

# The concentration function of the kidneys is determined by a test:

+in General

Addis-Kakovsky

Nechiporenko

# X-ray examination of the kidneys is called:

cholecystography

+pyelography

cholangiography irrigoscopy

# The excretion of protein in the urine is called:

glucosuria

urobilinuria

+proteinuria hematuria

# The excretion of white blood cells in the urine is called:

bacteriuria

hematuria

cylindruria albuminuria

+leukocyturia.

# The patient's urine is the color of "meat slops". Name this symptom:

microhematuria

leukocyturia

bacteriuria

proteinuria

+gross hematuria

# To determine the shaped elements, the following is performed:

clinical analysis of urine

sample according to Zimnitsky

+the sample according to Nechyporenko

bacteriological examination of urine

# The condition of the valvular apparatus of the heart better reflects:

laboratory diagnostics X-

ray examination

+ultrasound examination electrocardiography

# Normal ratio of day and night diuresis:

+3:1

2:1

1:1

1:2

# The relative density of urine in the general analysis is:

+1018-1025

1007-1010

1012-1015

1030-1040

U2 Clinical syndromes.

# In the emergency department, a young man, 23 years old, was taken by ambulance from the gym, who had a sharp pain in the right subclavian region, increasing shortness of breath during lifting the barbell. on examination: the right half of the chest lags behind in the act of breathing. The voice tremor is abruptly reduced. With percussion, the tympanic sound is determined. Auscultation revealed a significant weakening of respiration and bronchophony. What kind of pathology can think of:

lobar pneumonia

pleural effusion

+spontaneous pneumothorax choking

attack with bronchial asthma

obturation atelectasis

# Patient T., 52 years old, on examination: barrel-shaped chest. A blunt epigastric prick was revealed, the horizontal position of the ribs, the supra-and subclavian fossa were smoothed. On palpation: the vocal tremor is carried out equally on both sides, somewhat weakened. With percussion: box percussion sound. During auscultation: the same weakened breathing is heard over both lungs. There are no adverse respiratory noises. What the patient has: a

cavity in the lung associated with the bronchus

lobar inflammatory lung seal

+emphysema of the lungs

narrowing of the lumen of the bronchi with a viscous exudate

# A 60-year-old patient was admitted with complaints of shortness of breath with little physical exertion and at rest, an increase in the volume of the abdomen, edema of the lower extremities. Objectively: the position of orthopnea, swelling of the cervical veins, ascites, edema on the legs, pulse of 100 beats in 1 min, blood pressure-90/60 mm Hg. above the lower parts of the lungs, a shortening of the percussion sound is determined, breathing is not heard. About the insufficiency of which part of the heart can be thought of:

left ventricle

right atrium

+right ventricle

left atrium

# The patient L., 42 years old, against the background of increasing weakness, appeared jaundice staining of the sclera, a dark color of urine. The examination revealed jaundice staining of the sclera, tongue frenulum, soft palate and skin folds with an orange tinge. the rounded sensitive edge of the liver is palpated 2 cm below the costal arch. Signs of what clinical syndrome does this patient have

hepatic cell insufficiency

portal hypertension syndrome

+jaundice

# Beer-colored urine is characteristic of:

kidney

disease gallbladder

disease alcohol poisoning

+hepatic jaundice

# In the final stage of liver failure is characterized by:

euphoria, delirium

hallucinations

stupor

+coma

# With the syndrome of focal compaction of the lung tissue, the voice tremor over this area:

increased

+weakened

not changed

# In the syndrome of accumulation of inflammatory fluid in the pleural cavity, the mediastinal organs: do

not move

+shift to the healthy side

shift to the sick side

# The accumulation of fluid in the pleural cavity is:

atelectasis

+ hydrothorax

pneumothorax emphysema

# In the case of arterial hypertension syndrome, the

right ventricle is hypertrophied

+the left ventricle

left and right atria

interventricular septum

# With thyrotoxicosis syndrome, there are:

drowsiness, lethargy,

chilliness, a decrease in body temperature

bradycardia, constipation

+exophthalmos, tachycardia

# Sign of portal hypertension:

+ ascites

headache

jaundice

itching

# The symptom of Pasternatsky is detected by the method

of:

auscultation,

palpation

+pounding

# The main manifestation of renal eclampsia:

weakness

headache

+convulsions edema

# Enlargement of the spleen is called:

hypersplenism

hepatomegaly

+ splenomegaly gynecomastia

**Practical tasks to demonstrate practical skills**

**The assessment of practical skills**

The test of practical skills is carried out according to the list

**List of practical skills:**

1. Superficial palpation of the abdomen

2. Palpation of the cecum

3. Palpation of the sigmoid colon

4. Palpation of the transverse colon

5. Palpation of the descending intestine

6. Palpation of the ascending intestine

7. Palpation of the liver

8. Palpation of the spleen

9. Palpation of the kidneys

10. Point palpation, palpation of ureteral points

11. Palpation of the chest, its tasks.

12. Palpation of the apical push

13. Palpation of the heartbeat

14. Palpation of the thyroid gland

15. Palpation of the lymph nodes

16. Palpation of the stomach

17. Inspection and palpation of the joints

18. Pasternatsky's symptom

19. General inspection

20. Examination and palpation of the chest

21. "Cat purr", palpation of its species

22. Comparative percussion of the lungs in the front

23. Comparative percussion of the lungs from behind

24. Determination of the percutaneous height of the apical position of the lungs in front

25. Determination of percutaneous height of standing of the apices of the lungs from behind

26. Definition of Krenig fields

27. Determination of the lower border of the lungs along the mid-clavicular line

28. Determination of the lower border of the lungs along the mid-axillary line

29. Determination of the lower border of the lungs along the scapular line

30. Determination of the excursion of the pulmonary edge along the scapular line

31. Percussion of the right border of relative cardiac dullness

32. Percussion of the left border of relative cardiac dullness

33. Determination of the width of the vascular bundle

34. Determination of the heart diameter

35. Definition of absolute cardiac dullness

36. Determination of the first liver size according to Kurlov

37. Percussion of the spleen

38. Percussion determination of fluid in the abdominal cavity

39. Percussion of the liver according to Kurlov

40. Percutaneous determination of the size of the heart diameter

41. Percussion of absolute heart dullness

42. Auscultation of the heart

43. Blood pressure measurement, pulse palpation

44. Auscultation of the lungs

**ASSESSMENT FUND**

**FOR CURRENT PROGRESS MONITORING AND MIDTERM CERTIFICATION OF STUDENTS STUDYING ON DISCIPLINE**

**Characteristics of monitoring forms**

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| **Monitoring form** | **Characteristics** |
| **Report** | A report is a public announcement or document that contains information and reflects the essence of the issue or research in relation to a given situation. It can be written or oral. An oral presentation can be accompanied by a multimedia presentation or demonstration of any visual (material) objects.  Report allows you to assess the level of student`s theoretical knowledge on a given question, as well as to check the skills of analysis, synthesis, generalization and concretization, used by students while preparing a report. |
| **Project defense** | A project is a set of documents (calculations, drawings, etc.) for making any structure or product. Preliminary text of a document. Concept, plan. Independent student activity to solve the problem with the achievement of a practical result. It allows you to assess student`s knowledge level on the problem of the project, as well as the skills of planning, goal-setting, research, practical application of knowledge in typical and non-standard situations (for example, the material design of a project product or its separate component). To assess the skills of students, the project should have a practice-oriented nature, which would clearly show the ability of students to practically apply knowledge in typical and non-standard situations (for example, the material design of the project product or its separate component). |
| **Control of assignments in the workbook** | Control tasks in the workbook are aimed at identifying and comparing at a particular stage of learning the results of students' educational activities with the requirements set by the content of the discipline being studied. It can be used in IS OrSMU if the workbook with methodological instructions is placed in the work program of the discipline and students have the opportunity to complete tasks by filling out the notebook and sending it to the teacher for checking. It allows you to check and evaluate the knowledge of students, to determine the degree of their readiness for further education, as well as the skills level, if the tasks are of a practice-oriented nature. |
| **Test** | A test is one of the forms of written verification and assessment of the acquired knowledge, the level of independence and activity of students in educational activities. They can be carried out in the classroom and in the form of homework, current and final, graphic, practical, frontal (for all) and individual. Traditionally, the test involves the identification of knowledge on a specific topic (section), as well as an understanding of the essence of the studied phenomena, objects, their patterns (for example, assignments for comparison, insertion of missing words, etc.). To assess the skills of students primarily graphical and practical tests are used. The graphical test is aimed at identifying the ability of students to draw up a generalized visual model that reflects certain relationships, relationships in an object or in their totality. These can be graphics, pictures, drawings, diagrams, tables. Practical tests are carried out to identify the abilities and skills of students to carry out certain research, laboratory experiments, make measurements, perform appropriate operations and manipulations in educational and industrial conditions. One of the forms of testing practical skills and abilities is a control practical exercise lesson (in physics, chemistry, biology, anatomy, physiology, surgery, etc.), usually held at the end of the study of the topic or section of the discipline. |
| **Written questionnaire** | A written questionnaire is a type of written assessment of students' knowledge on certain questions or topics. It can be current and final, individual and frontal. It involves posing a number of questions to students, to which they give a detailed written answer. It allows you to assess the knowledge of students on the passed topic (or module) of the discipline. |
| **Presentation** | A presentation (computer presentation) is a demonstration in a visual form of the main provisions of the oral presentation, the degree of mastering the content of the problem. It allows you to assess the level of students` knowledge on a given question (topic, section), as well as to check their skills of analysis, synthesis, generalization and concretization, information and communication skills used by students in the process of preparing a presentation. |
| **Abstract** | Abstract is a summary, in writing or in the form of a public speech, of the content of a book, scientific work, and the results of studying a scientific problem, a report on a specific topic, including a review of relevant literary and other sources. As a rule, it is an independent student's work on revealing the essence of the problem under study, presenting various points of view and their own views on it. The defense of the abstract can be accompanied by a presentation. Since the main purpose of the essay is scientific and informational, this form of control is aimed mainly at assessing the knowledge of students on a specific topic (issue), although it allows us to identify the level of formation of the skills of analysis, synthesis, generalization and concretization used by the student in the process of preparing a report. |
| **Case-task completion** | Case-tasks are technology for teaching students. The students are given a set of educational material (case) and, as a result of acquaintance with it, they ought to comprehend the essence of the problem, which, as a rule, does not have an unambiguous solution, and offer their solution using the acquired knowledge and skills. It is widely used in practical classes in a foreign language, management, law, economics and other disciplines. In medicine, it can be used to teach students to write a medical history. It allows to evaluate, first of all, the students' skills to apply the acquired knowledge when solving specific practical situations. Knowledge assessment is present at the stage of collecting material for a case-task. |
| **Terminological dictation** | Terminological dictation is a type of students` written work to consolidate and test knowledge on a specific topic (issue). It can be checking or repetitive. The first is aimed at controlling knowledge, the second one is aimed at training students in the use of certain terms. It allows you to assess the students` knowledge. In this case, it should be used only if students have clear instructions on which terms are to be memorized. Otherwise, the student will write the term that he has learned from the literature he has. |
| **Testing** | Testing is a written way of testing students' knowledge. It can be current and final (by Module or discipline as a whole). Test items can include questions with one or more correct answers, assignments for matching and sequencing, as well as problem-situation tasks that require the selection of the correct (or several correct) answer options, as well as graphic images that require interpretation or definition. In most cases, testing is aimed at assessing students' knowledge. It allows to assess the students' skills when the test tasks are presented by problem-situational tasks, tasks with graphic (visual) images that require the use of a solution algorithm (action with an object). |
| **Recitation** | Recitation is a method of testing the knowledge and skills of students, which consists in the fact that students are invited to reproduce a certain content: empirical facts, theoretical positions, formulations of concepts, examples, classifications, scientific laws. It allows you to assess the level of knowledge of students on a particular issue, topic, section, discipline. Assessment of the students' skills is possible if, in the course of answering the question posed, the student needs to demonstrate the acquired knowledge in order to solve a problem question or problem-situational task. |
| **Practical task completion monitoring** | A practical task is a task that contains exercises and tasks that the student must solve (complete) visually (effectively), i.e. practically manipulating real objects or their substitutes. It is widely used in mathematics, computer science, physics, chemistry, economics, and other natural science disciplines. In medicine, it can be represented by the student performing direct practical manipulations with the "patient" both in the course of practical training and directly at the bases of practical training. It allows you to assess the ability of students to apply theoretical knowledge to solve (perform) a practical task in both standard and non-standard situations. |
| **Control norm administration** | A norm (from the Latin norm) is a regulatory rule indicating the boundaries of its application. Time, quantitative and qualitative indicators of students' performance of certain tasks, techniques and actions related to the content of the academic discipline. Administration of control standards is widely represented in the technical, engineering, military fields of knowledge, as well as in the field of physical culture and sports. In medicine, it can take place when assessing the performance by students of direct actions with a "patient" that have clear normative indicators (for example, cardiopulmonary resuscitation, the number of sutures, auscultation, palpation, percussion, injections, etc.). It allows you to assess the ability of students to apply the theoretical knowledge received (about certain standards) in standard and non-standard situations. |
| **Checking case histories** | A case history is an accounting and operational document drawn up for each patient in a medical and preventive treatment institution, designed to register information about the diagnosis, course and outcome of the disease, as well as diagnostic and medical-preventive activities taken during the patient's stay in the hospital. It allows you to assess the student's ability to apply the theoretical knowledge gained in direct professional learning situations (so-called contextual learning). |
| **Solving problem-situational tasks** | Problem-situational tasks are a kind of practical task that involves solving an issue in a certain situation. Both the question and the situation itself can be problematic. In most cases, problem-situational tasks have a professional focus. They allow assessing the ability of students to apply the obtained theoretical knowledge in various situations. |
| **Practical skills testing** | Testing of practical skills can be used to control the students' practical actions (medical manipulations) with the "patient". It allows you to assess the skills and abilities of students to apply the theoretical knowledge (about certain actions and manipulations) in standard and non-standard situations. |
| **Practice report** | A report is a message, a report on their actions, work. Practice report – is the information compiled in a certain form, data on the student's activities for a certain period based on practical training. It allows you to evaluate the practical experience achieved by students in the application of the theoretical knowledge, abilities and skills in the process of direct professional activity. |
| **Practice diary** | A diary is the records of everyday activity. The practice diary reflects the student's daily activities based on practical training. It allows to evaluate the dynamics of students' mastering of practical professional activity experience in the process of practical training (educational and industrial practice). |

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| --- | --- |
| **Monitoring form** | **Assessment criteria** |
| **Recitation** | On "FIVE POINTS" the answer is assessed, which shows solid knowledge of the main questions of the studied material, is distinguished by the depth and completeness of the disclosure of the topic; knowledge of the terminological apparatus; the ability to explain the essence of phenomena, processes, events, draw conclusions and generalizations, give reasoned answers, give examples; fluency in monologue speech, consistency and consistency of the answer. |
| On "FOUR POINTS" the answer is assessed, which reveals a solid knowledge of the basic questions of the studied material, differs in the depth and completeness of the disclosure of the topic; knowledge of the terminological apparatus; the ability to explain the essence of phenomena, processes, events, draw conclusions and generalizations, give reasoned answers, give examples; fluency in monologue speech, consistency and consistency of the answer. However, one or two inaccuracies in the answer are allowed. |
| On "THREE POINTS" the answer is assessed, which testifies mainly to the knowledge of the studied material, which is characterized by insufficient depth and completeness of the disclosure of the topic; knowledge of the basic issues of theory; poorly formed skills in analyzing phenomena, processes, insufficient ability to give reasoned answers and give examples; lack of fluency in monologue speech, logic and consistency of the answer. Several mistakes are allowed in the content of the answer. |
| On "TWO POINTS" the answer is assessed, revealing ignorance of the studied material, characterized by a shallow disclosure of the topic; ignorance of the main issues of theory, unformed skills in the analysis of phenomena, processes; inability to give reasoned answers, weak command of monologue speech, lack of consistency and consistency. Serious errors in the content of the answer are allowed. |
| ZERO POINTS" is given if there is no answer |
| **Testing** | "FIVE POINTS" is given on condition of 90-100% correct answers |
| "FOUR POINTS" is given on condition of 75-89% correct answers |
| "THREE POINTS" is given on condition of 60-74% correct answers |
| "TWO POINTS" is given on condition of 59% or less correct answers. |
| "ZERO POINTS" is given if there is no answer |
| **Written questionnaire** | "FIVE POINTS" is given to a student if he knows the conceptual apparatus, demonstrates the depth and complete mastery of the content of the educational material, in which he is easily oriented. |
| "FOUR POINTS" are given to the student for the ability to correctly present the material, but the content and form of the answer may have some inaccuracies. |
| "THREE POINTS" is awarded if a student discovers knowledge and understanding of the main provisions of the educational material, but expresses it incompletely, inconsistently, makes inaccuracies in the definition of concepts, does not know how to substantiate his judgments with evidence. |
| "TWO POINTS" is given if a student has scattered, unsystematic knowledge, does not know how to distinguish the main and the secondary, makes mistakes in the definition of concepts, distorts their meaning. |
| "ZERO POINTS" is set if there is no answer. |
| **Problem-situational tasks** | "FIVE POINTS" - the student correctly and fully conducts the initial assessment of the condition, independently identifies the satisfaction of which needs are violated, determines the patient's problems, sets goals and plans nursing interventions with their justification, conducts current and final assessment. |
| "FOUR POINTS" - the student correctly conducts the initial assessment of the condition, identifies the satisfaction of what needs are violated, determines the patient's problems, sets goals and plans nursing interventions with their justification, conducts the current and final assessment. Some minor difficulties in answering are allowed; justification and final assessment is carried out with additional comments from the teacher. |
| "THREE POINTS" - the student correctly but incompletely conducts the initial assessment of the patient's condition. Identifying the satisfaction of what needs are violated, determining the patient's problem is possible with leading questions from the teacher. Sets goals and plans for nursing interventions without justification, conducts ongoing and final assessment with leading questions from the teacher; Difficulties with a comprehensive assessment of the proposed situation. |
| "TWO POINTS" - wrong assessment of the situation; incorrectly chosen tactics of action. |
| "ZERO POINTS" is set if there is no answer. |
| **Practical skills** | "FIVE POINTS". The student has shown full knowledge of the program material, the workplace is equipped with all the requirements for preparation for performing manipulations; practical actions are performed sequentially in accordance with the algorithm for performing manipulations; all requirements for the safety of the patient and medical staff are observed; the time limit is observed; the workplace is cleaned in accordance with the requirements of the sanitary and epidemiological supervision; all actions are justified. |
| "FOUR POINTS". The student has shown complete knowledge of the program material, the workplace is not fully independently equipped to perform practical manipulations; practical actions are performed consistently, but not confidently; all requirements for the safety of the patient and medical staff are observed; time regulations are violated; the workplace is cleaned in accordance with the requirements of the sanitary and epidemiological regime; all actions are justified with clarifying questions of the teacher, made small mistakes or inaccuracies. |
| "THREE POINTS". The student showed knowledge of the basic program material in the amount necessary for the upcoming professional activity, but made no more than one fundamental mistake, the workplace is not fully equipped to perform practical manipulations; the sequence of their implementation is broken; unsure actions, leading and additional questions and comments of the teacher are needed to justify actions; all requirements for the safety of the patient and medical staff are observed; the workplace is cleaned in accordance with the requirements of the sanitary and epidemiological regime. |
| "TWO POINTS". The student discovered significant gaps in the knowledge of the practical skill algorithm, made more than one fundamental mistake, difficulties in preparing the workplace, the inability to independently perform practical manipulations; actions are taken that violate the safety of the patient and the medical staff, the requirements of the sanitary and epidemiological regime, safety measures when working with the equipment and materials used are violated. |
| "ZERO POINTS" is given if there is no answer |
| **Abstract defense** | "FIVE POINTS" is awarded if the student fulfills all the requirements for writing and defending the abstract: the problem is identified and its relevance is justified, a brief analysis of various points of view on the problem under consideration is made and their own position is logically stated, conclusions are formulated, the topic is fully disclosed, the volume is maintained, requirements for the external design, the correct answers to additional questions are given. |
| "FOUR POINTS" is given if the students meet the basic requirements for the abstract and its defense, but at the same time there are some mistakes. In particular, there are inaccuracies in the presentation of the material; there is no logical consistency in judgments; the volume of the abstract is not kept; there are omissions in the design; incomplete answers were given to additional questions during the defense. |
| "THREE POINTS" is given if the student allows significant deviations from the requirements for abstracting. In particular, the topic is covered only partially; factual errors were made in the content of the abstract or when answering additional questions; there is no output during protection. |
| "TWO POINTS" is given if the topic of the abstract is not disclosed to the students, a significant misunderstanding of the problem is revealed. |
| "ZERO POINTS" is given if there is no answer |
| **Presentation demonstration** | "FIVE POINTS" is awarded if there is a connection between the presentation and the program and curriculum, the corresponding section; the didactic and methodological goals and objectives of the presentation were achieved; provides reliable information about historical references and current events; all conclusions are confirmed by reliable sources; the language of the presentation is clear to the audience; the chronology is followed, the priorities are correctly set; logical transition to the conclusion; correct conclusions; the font is readable, the color (background, font, headers) is correctly selected, animation elements are present; no grammatical errors. |
| "FOUR POINTS" is given if the students meet the basic requirements for the presentation, but there are some mistakes. In particular, there are inaccuracies in the presentation of the material; a topic was chosen without taking into account the curriculum; there is no logical consistency in judgments; requirements for graphic content are not met; there are omissions in the design; incomplete answers were given to additional questions during the defense. |
| "THREE POINTS" is given if the student makes significant deviations from the requirements for presentation design. In particular, the topic is covered only partially; errors of fact were made in the content of the presentation or when answering additional questions; no output was presented during the demo. |
| "TWO POINTS" is given if the topic of the abstract is not revealed to the students, a significant misunderstanding of the problem is revealed. |
| "ZERO POINTS" is given if there is no answer. |
| **Practical tasks (Patient card)** | "FIVE POINTS" is awarded if the content corresponds to the given topic; the topic is fully disclosed and contains modern, reliable data; the text is written consistently, logically and correctly from the point of view of the norms of the Russian language; there are photographs, diagrams, according to the stated topic; matches the pictorial design. |
| “FOUR POINTS” is awarded if the student has issued a booklet that meets the same requirements as for the mark “excellent”, but made minor corrections in the text or image, which he himself corrects. |
| "THREE POINTS" is given if the content does not fully correspond to the declared theme; the topic is not fully disclosed and contains outdated data; the text is written consistently, logically, but there are mistakes from the point of view of the norms of the Russian language; not enough photos and diagrams are available; matches the pictorial design. |
| "TWO POINTS" is given if the content does not correspond to the declared topic; the topic is not fully disclosed and does not contain modern, reliable data; the text is not written consistently and logically, there are gross mistakes from the point of view of the norms of the Russian language; there are no photos and diagrams available; it does not match the pictorial design. |
| "ZERO POINTS" is given if there is no answer |

**1. Evaluation materials of intermediate certification of students.**

Intermediate certification in the discipline in the form of an exam is carried out on examination tickets, in oral form. The package of materials for taking the exam includes:

• tests;

• practical skills;

• interview, solution of a situational problem on laboratory research methods

Criteria used for evaluating students at the intermediate certification

The calculation of the disciplinary rating is carried out as follows:

Rd=Rt+Rb+Re, where

Rb-bonus rating;

Rd-disciplinary rating;

Rz-credit rating;

Rt - current rating;

Re-examination rating

13-15 points. The answers to these questions are presented logically, consistently and do not require additional explanations. The causal relationships between phenomena and events are fully revealed. Reasonable conclusions are made. Observing the norms of the literary language. (Test: number of correct answers > 70 %).

12-10 points. The answers to these questions are presented in a systematic and consistent manner. The material is presented confidently. The causal relationships between phenomena and events are revealed. The ability to analyze the material is demonstrated, but not all conclusions are reasoned and evidence-based. Observing the norms of the literary language. (Test: number of correct answers > 70 %).

9-7 points. Violations in the sequence of presentation are allowed. The causal relationships between phenomena and events are not fully disclosed. A superficial knowledge of the issue is demonstrated, and specific tasks are difficult to solve. There are difficulties with conclusions. Violations of the norms of literary speech are allowed. (Test: number of correct answers > 70 %).

6-1 points. The material is presented inconsistently, confusingly, does not represent a certain system of knowledge in the discipline. The causal relationships between phenomena and events are not disclosed. No analysis is performed. There are no conclusions. There are no answers to additional questions. There are noticeable violations of the norms of literary speech. (Test: number of correct answers < 70 %).

**Questions for testing the theoretical knowledge of the discipline**

1. General idea of laboratory methods of research, their significance in the clinic of internal diseases.
2. Endoscopic methods of research. A general idea of the diagnostic value of histological and cytological examination, organ biopsy. Indications and contraindications to endoscopic methods of investigation.
3. Ultrasonic methods of investigation in clinic of internal diseases. Their importance for the diagnostics.
4. Radioisotope methods of research, principles. Scanning of various organs, diagnostic value. Indications and contraindications to radioisotope methods of research.
5. Methods of functional diagnostics. Methods of registration of biopotentials arising in the course of functional activity of organs (ECG-electrocardiography, EEG - electroencephalography and others).
6. Making case history and graphical display of main indicators of examination of a patient in a "temperature sheet".
7. Questioning method in diseases of the cardiovascular system. Main complaints and its pathogenesis. Pain in the heart area, shortness of breath, palpitations, cough, hemoptysis. The importance of the anamnesis for diagnosis and prognosis of diseases of the circulatory system.
8. Visual examination in diseases of the cardiovascular system. The position of the patient. Changes in the skin. Swelling. Negative and positive venous pulse. Visual inspection of the heart area.
9. Palpation in diseases of the cardiovascular system. Palpation of the apical and cardiac impulses. Determination of the systolic and diastolic ("cat purring") in the heart area. Palpation of peripheral arteries and characteristics of the pulse.
10. Percussion in diseases of the cardiovascular system. Determination of relative and absolute cardiac dullness borders, vascular fascicle. The definition of configuration of relative cardiac dullness. Diagnostic value of changes in borders of relative and absolute cardiac dullness.
11. The technique of auscultation of the heart. Places of listening to the heart. Differences between systole and ventricular diastole during auscultation. The concept of heart tones. The mechanism of their occurrence. The main tones (1 and 2 tones) and additional tones (3 and 4, the tone of the opening of the mitral valve).
12. Auscultation of the heart. Basic properties of heart sounds (tones). The changes of heart tones in pathology: reducing, increasing, reduplication, appearance of additional tones.
13. "Rhythm of quail", a "gallop rhythm", the pendulum rhythm (embryocardia), tachycardia, bradycardia, arrhythmia.
14. Heart murmurs. The mechanism of occurrence. Classification. The differences between organic and functional murmurs. Relation of the cadiac murmurs to the phases of cardiac activity.
15. Systolic murmurs, mechanism of their occurrence, the distinction of functional from organic cardiac murmurs, character, timbre, duration, place of the best auscultation and irradiation in case of acquired heart defects.
16. Diastolic murmurs, mechanism of occurrence the distinction of functional from organic cardiac murmurs, character, timbre, duration, place of the best auscultation and irradiation in case of acquired heart defects.
17. Arterial pulse: examination of pulse on radial artery, comparison of heart rate on both hands. Frequency, rhythmicity (presence of arrhythmias and pulse deficits), the strength of the pulse, exertion, size, speed, shape of the pulse.
18. Definition of blood pressure by Korotkov`s method. Methods and techniques. Systolic, diastolic, and midlle blood pressure. Pulse pressure. The concept of arterial hypertension and hypotension.
19. Acute left ventricular heart failure. Cardiac asthma (etiology, pathogenesis, symptomatology, urgent help).
20. The difference between cardiac and bronchial asthma.
21. Cardiac pulmonary edema (etiology, pathogenesis, symptomatology, emergency help).
22. Chronic heart failure (etiology, pathogenesis, main clinical phenomena). Stages of chronic heart failure.
23. Acute right ventricular heart failure. Etiology, pathogenesis, main clinical manifestations.
24. Arterial hypertension syndrome (the concept, etiology, clinical signs). Urgent help in case of hypertensive crisis.
25. Syndrome of acute vascular failure (collapse, syncope, shock), emergency help.
26. Syndrome of coronary insufficiency (etiology, clinic). Angina pectoris. Urgent help.in anginal status.
27. Coronary heart disease. Acute myocardial infarction (fundamental concepts concerning clinic, diagnostics). Emergency help in anginal status.
28. Mitral regurgitation (insufficiency) (etiology, hemodynamic disorders, physical findings).
29. Stenosis of the left atrioventricular orifice (etiology, hemodynamic disorders, physical findings).
30. Insufficiency of aortic valve (aortic regurgitation) (etiology, hemodynamic disorders, physical findings).
31. Aortic stenosis (etiology, hemodynamic disorders, physical findings).
32. Questioning in diseases of the respiratory system. Main complaints and their pathogenesis. The importance of the anamnesis for diagnosis and prognosis of bronchopulmonary diseases.
33. Visual examination in diseases of the respiratory system. Changes in position, cyanosis, pathological deformity of the chest. The character of dyspnea, depending on the pathology of the respiratory system.
34. The technique of palpation of the chest. The definition of pain, resistance. Research of vocal fremitus on symmetric sites of the chest. The diagnostic value.
35. Classification of percussion sounds. Diagnostic value of percussion of the chest
36. Vesicular respiration (breathing), mechanism of formation, the character in norm and pathology.
37. Bronchial respiration (breathing), the mechanism of formation, place of best auscultation. Pathological bronchial breathing.
38. Rales dry and wet, classification, diagnostic value.
39. Crepitation (physiological and pathological). Pleural fremitus. The mechanism of formation. The places of best auscultation, diagnostic value. Auscultatory difference between rales.
40. Bronchial obstructive syndrome .
41. The syndrome of lung tissue infiltration. Physical differences between lobar and focal pneumonia.
42. Syndrome of air cavity in the lung.
43. Syndrome of increased airiness of lung tissue (emphysema).
44. Syndrome of atelectasis (obstructive and compressive).
45. Syndrome of liquid accumulation in pleural cavity (hydrothorax, exudative pleurisy). Differential diagnosis.
46. The syndrome of accumulation of air in pleural cavity (pneumothorax).
47. Pulmonary failure, extent, types of ventilation disorders – restriction, obstruction, alveolar-capillary block). Emergency help at acute respiratory failure in the prehospital and hospital periods.
48. The difference between cardiac and bronchial asthma. First medical aid in case of bronchial asthma attacks.
49. Etiology, pathogenesis, characteristic of edema in kidney diseases. Difference renal edema from edema in cardiac patients.
50. Violation of urination (dysuria, oliguria, nocturia, pollakiuria, anuria). Etiology, clinical significance.
51. Peculiarities of physical examination of renal patients.
52. The acute renal failure syndrome, etiology, pathogenesis, stages, symptomatology. Determination of urea, creatinine, residual nitrogen in blood serum. Diagnostic value. Uremic coma.
53. Syndrome of renal colic.
54. The syndrome of renal eclampsia.
55. Questioning, visual examination in diseases of the digestive system. Percussion of the abdomen. The methodology of the definition of ascites in the vertical and horizontal position of the patient.
56. The method of superficial tentative palpation of the abdomen. Deep methodical sliding palpation of the abdomen according to the method of V. P. Obraztsov and N. D. Strazhesko.
57. Gastric probe study. Method of fractional gastric intubation. The concept of basal and stimulated gastric secretion (trial breakfast and histamine stimulus), the concept of pH-metric examination of the stomach.
58. Syndromes of «acute abdomen».
59. Syndromes of esophageal, gastric, intestinal bleeding. Using of instrumental methods and laboratory tests in order to determine bleeding. Emergency help.
60. Mechanical jaundice. Etiology, pathogenesis, violation of pigment metabolism clinic.
61. Hemolytic jaundice. Etiology, pathogenesis, violation of pigment metabolism clinic.
62. Parenchymatous (hepatic) jaundice. Etiology, disorder of pigment metabolism, clinic.
63. The syndrome of hepatic failure (hepatic coma). Etiology. Symptomatology.
64. Anaphylactic shock, etiology, pathogenesis, emergency help.
65. Angioedema (Quincke's edema).
66. Urticaria (nettle rash).
67. Diabetic coma (etiology, main symptoms, emergency help).
68. Hypoglycemic coma (etiology, main symptoms, emergency help).
69. Differential diagnostics of hypoglycemic and hyperglycemic coma.
70. Basics of medical ethics and deontology

**Practical tasks to test the formed skills and abilities**

**Situational tasks**

**Task 1**

Patients A and B are taken to the hospital with asthma attack. Both are taking a forced position – they are sitting in bed with hands on their knees. Mouth is opened. Nares are inflated. Patients are worried about cough with expectoration. The doctor has managed with eliminating asthma attacks of both patients but he doubts about the identity of the reasons of dyspnea. The sputum of both patients was directed to the laboratory for clarification of diagnosis.

**Sputum analysis**

|  |  |  |
| --- | --- | --- |
| Characteristics of sputum | Patient A | Patient B |
| Quantity, ml | 20,0 | 150,0 |
| Color | colorless | pink |
| Character | mucous | serous |
| Consistency | malleable | frothy, liquid |
| Smell | without features | without smell |
| Eosinophils | congestions | not detected |
| Epithelium | ciliated, cylindrical | squamous and alveolar epithelium, single |
| Charcot-Leyden crystals | detected | not detected |
| Kurshman’s spirals | detected | not detected |

Try to express your opinion about character of patient’s asthma attack basing on the data table.

**Task 2**

Fluorography screening has revealed patients C and D who have similar changes in the upper lobe of the right lung: the center of enlightenment (cavity) 4 cm in diameter with thick capsule, amplified pulmonary drawing due to pneumofibrosis (excrescence of connective tissue). From anamnesis we know that both of them have been ill for several years, 1-2 months a year they have threatened in the hospital. There is a low grade fever in the evenings, a little dyspnea, spitting.

**Sputum analysis**

|  |  |  |
| --- | --- | --- |
| Characteristics of sputum | Patient C | Patient D |
| Color | yellowish-green | golden-grey |
| Character | purulent-mucous | purulent |
| Consistency | viscous | viscous |
| Shape | Dual layer | Dual layer, wispish |
| Smell | putrefactive | putrefactive, musty |
| leukocytes | cover the entire field of view | cover the entire field of view |
| erythrocytes | no | 15-20 in the field of view |
| Epithelium | squamous, alveolar | alveolar, much |
| Elastic fibers | detected | detected |
| Microorganisms | streptococcus | Koch's Bacillus |
| other elements | no | crystals of hematoidin |

Remember, which diseases cause the formation of cavities in the lungs? Which features does sputum get in these cases?

**Task 3**

Patients A and B went to the doctor of the polyclinic with complaints of subfebrile temperature, weakness, sweating, cough with a small amount of sputum. Before that, they were treated for acute respiratory disease (ARI) for a week.

To clarify the diagnosis, the sputum of patients is sent to the study.

**The results of the examination of the sputum**

|  |  |  |
| --- | --- | --- |
| Characteristics of sputum | Patient A | Patient B |
| Color | transparent | transparent |
| Character | mucous | mucous-purulent |
| Consistency | viscous | viscous |
| Smell | without smell | without smell |
| leukocytes | 14-16 in the field of view | 8-10 in the field of view |
| Epithelium | cylindrical, ciliated | alveolar |
| Microorganisms | groups of 2-3 cells of streptococci, pneumococci in the field of view | groups of 5-10 cells of streptococci, pneumococci in the field of view |

What kind of syndrome can you think of with such sputum tests? What additional methods should be used to clarify the diagnosis?

**Task 4**

Patients A and B applied to the clinic with some similar complaints: increasing of the temperature to 38 C, weakness, cough with expectoration. The doctor determined the dullness of percussion tone at the left upper corner of the scapula and weakened vesicular respiration in an objective examination of the patients.

**Sputum analysis**

|  |  |  |
| --- | --- | --- |
| Characteristics of sputum | Patient A | Patient B |
| Color | grey | crimson |
| Character | mucous-purulent | bloody |
| Consistency | viscous | gelatinous |
| leukocytes | cover the entire field of view | single in the field of view |
| erythrocytes | up to 10 in the field of view | 15-20 in the field of view |
| Epithelium | alveolar | atypical cells |
| Microorganisms | pneumococci | **-** |
| Elastic fibers | no | detected |

What diseases can you think about having such sputum analysis? What are the evidences?

**Task 5**

Patients A, B, and C were admitted to the pulmonology department of the hospital. They presented many different complaints, but all of them are concerned about constant shortness of breath. Some physical data were also similar. When palpating the chest, there is no vocal tremor on the right under the scapula. A dull sound was detected percutorily below the 5th rib. Auscultation in this area of the breath was not listened to. X-ray examination revealed a darkening in the lower parts of the right lung with an oblique upper border. For diagnostic purposes, a puncture of the pleural cavity was performed.

**The results of the study pleural fluid**

|  |  |  |  |
| --- | --- | --- | --- |
| Characteristics of the pleural fluid | Patient A | Patient B | Patient C |
| Color | straw yellow | straw yellow | bloody |
| Transparency | full | full | muddy |
| Specific gravity | 1010 | 1020 | 1022 |
| Rivalta reaction | negative | positive | positive |
| Protein | 1 % | 5 % | 5 % |
| Mesothelium cells | 0-1 in the field of view | 5-8 in the field if view | atypical cells |
| erythrocytes | - | 1-2-3 in the field of view | 20-30 in the field of view, fresh |
| neutrophils | 0-1 in the field of view | 3-5 in the field of view | 3-4 in the field of view |
| lymphocytes | 2-3 in the field of view | 20-25 in the field of view | 2-3 in the field of view |

Try to determine what type of fluid (exudate, transudate) the contents of the pleural cavity in each of these patients belong to?

**Task 6**

The following data were obtained during fractional probing in patient A:

Trial breakfast-cabbage

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color | 20  8  0  8  no color | 10  18  10  6  blue | 50  26  14  12  blue | 20  32  24  8  pale blue | 15  48  30  18  no color | 30  50  23  16  no color | 25  50  26  14  no color | 20  60  28  12  no color | 22  60  30  12  no color | Single nuclei of white blood  cells.  The epithelium is cylindrical,  flat, single, and in  small groups. |

debit-hour HCI 2.82-meq/hour;

free HCI flow rate-1.73 meq / hour;

debit-hour of the associated HCI - 1.27 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 20 mg.

Are there any signs of stomach damage in this case?

**Task 7**

Patients B and C had epigastic pain a few months ago, 30 to 60 minutes after eating, acid belching, heartburn, and intermittent vomiting. They were sent to the hospital for examination for the first time. Palpation revealed a slight pain in the epigastric region.

When examining the gastric contents, the following changes were found:

**Examination of the gastric contents of patient B**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  mucos | 80  28  16  12  no color + | 10  21  15  6  blue  + | 100  64  36  28  blue  + | 60  78  42  36  blue  + | 40  96  58  38  blue  + | 60  88  60  28  Pale blue.  + | 30  84  75  9  no color + | 40  84  59  25  no color  + | 50  74  49  25  no color  + | White blood cells, a  significant  amount.  Gastric epithelium  accumulations. |

debit-hour HCI 15.13 meq / hour;

debit-hour of free HCI 8.55 meq / hour;

debit-hour of the associated HCI 6.54 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 70 mg

**Examination of the gastric contents of the patient C**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 mn | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  mucos  blood | 120  36  20  16  no color  +  + | 10  20  12  8  blue  +  + | 120  58  36  22  blue.  +  + | 80  59  42  17  blue.  + | 50  74  54  20  blue.  + | 60  77  56  21  blue  + | 40  120  85  35  Pale blue  + | 30  131  90  41  Pale blue  .  + | 50  126  85  41  Pale blue  + | Red blood cells in  groups.  Gastric epithelium  accumulations.  White blood cell nuclei. |

debit-hour HCI 15.58 meq / hour;

debit-hour of free HCI 10.50 meq / hour;

debit-hour of the associated HCI 5.08 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 65 mg.

What diseases can you think of from these tests?

**Task 8**

Patients K and N. were hospitalized in the ward. Both complain of dull, constant pain in the epigastrium, which increases after eating, poor appetite, and weight loss. They are ill for about 5 years. The doctor prescribed gastric probing for the purpose of examination of the patients. The following data were obtained:

**Examination of the gastric contents of the patient K**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color  Lactic acid  Blood  Bile | -  -  -  -  -  -  -  - | 20  2  0  2  blue.  +  + | 40  7  0  7  Pale blue  +  + | 9  5  0  5  no color  +  + | 6  6  0  6  no color  +  + | 7  6  0  6  no color  +  +  + | 3  5  0  5  Pale pink.  +  +  + | 3  4  0  4  Pale pink.  +  +  + | 2  3  0  3  Pale pink.  +  +  + | Red blood cells.  Sticks of lactic acid  fermentation.  White blood cell nuclei.  Sarcinae.  Yeast fungi |

debit-hour HCI 0.42 meq / hour;

debit-hour of free HCI --;

debit-hour of bound HCI 0.42 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 1 mg.

**Examination of the gastric contents of patient N**

**Trial breakfast-cabbage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | fasting | Basal secretion | | | | Stimulated secretion | | | | Microscopic examination  of gastric contents |
| after  15 min | after  30 min | after  45 min | after  1 h | after  1 h 15 min | after  1 h 30 min | after  1 h 45 min | after  2 h |
| Quantity  Total acidity  Free HCI  Related HCI  Blue color | -  -  -  -  - | 12  4  0  4  blue | 25  8  0  8  Pale blue | 10  5  0  5  No color | 6  6  0  6  No color | 8  4  0  4  yellow | 4  3  0  3  No color | 3  2  0  2  No color |  | White blood cells in a significant amount.  Single red blood cells. Epithelial cells  the cells are unchanged. |

Rennet enzyme in 1:10 dilution not detected HCI

flow rate 0.53 meq / h;

debit-hour of free HCI -;

debit-hour of bound HCI 0.53 meq / hour;

the flow rate of pepsin according to V. N. Tugolukov is 0 mg.

What diseases can you think of based on the analysis of gastric juice?

**Task 9**

Upon admission to the hospital, the patient complained of aversion to food, especially meat, unpleasant sensations in the epigastrium, weight loss for 2 months by 8 kg, weakness, reduced performance, about 3 weeks in the evenings subfebrile temperature. From the anamnesis, it is known that the disease began about six months ago without any apparent reason for the patient with unpleasant sensations in the epigastrium. I was not examined, I was treated independently with No-shpa tablets. Objective examination revealed that the patient is emaciated, the skin turgor is reduced, the skin and mucous membranes are pale. The tongue is dry, covered with a white coating, an unpleasant smell from the mouth. The abdomen is of the usual shape, the anterior abdominal wall is thinned. With superficial palpation, there is pain in the epigastric region, and with deep palpation in the stomach, a seal up to 5 cm in diameter is clearly palpated, dense, sedentary, painful, the liver is not palpated. Palpation of the intestine revealed no pathology.

The study of gastric juice revealed the absence of free hydrochloric acid, combined with the absence of pepsin and the presence of lactic acid. When roentgenoscopy of the stomach is noted by the large curvature of the "filling defect", the lack of accommodation of the stomach. Your diagnosis?

**Task 10**

Patient P. complains of daily pain of a cutting nature in the epigastrium, appearing 2-3 hours after eating and even at night, heartburn, acid belching. Sometimes there is vomiting of acidic contents, which brings relief. Stool – once every 3 days. From the anamnesis, it is known that he considers himself ill for about three years, the onset of the disease is associated with nervous stress. Notes the deterioration of the condition every fall and spring. In an objective study, the consciousness is clear, the physique is normosthenic, the diet is normal. The skin is clean, of normal color, the tongue is overlaid with a gray-white coating. The abdomen is soft, with deep palpation is determined by tenderness in the region of the pylorus. The liver is not palpable. On the part of the intestine, no pathology was detected during palpation. Study of gastric juice:

The dose on an empty stomach: the number — 160 ml; total acidity — 70; FL. NS1-60. Basal secretion: time-1 h.; quantity-356 ml; total acidity-65-105; free. NS1 — 48-86. Maximum secretion (after the introduction of a decoction of dry cabbage): time-1 h.; quantity-320 ml; total acidity-78-115; free. NS1 - 60-92. The test for lactic acid content is negative. Content: gray color. There is no smell or impurity. Leu in a significant amount. Cylindrical epithelium up to 36 in the field of view. Eg fresh, up to 10 in the field of view. Mucus in large quantities.

During the X-ray examination, a "niche"was found in the area of the bulb 12-P. K. With EGDS-hyperemia and swelling of the mucosa of the bulb 12-P. K., a defect of the mucosa with a diameter of up to 2 cm. What should the doctor think about?

**Task 11**

A patient was admitted to the therapeutic department, who complained of a feeling of heaviness and swelling in the epigastrium, weight loss, nausea, frequent vomiting.

For the study, the patient's vomit was delivered to the laboratory, which had an unpleasant smell of rotten eggs, contained air bubbles, remnants of food eaten a day ago, and a lot of mucus. Total acidity – 10 titration units, free-0 titration units.

What kind of stomach damage should I think about in this case?

**Task 12**

Duodenal probing was performed on the patient and in the order of examination of the gastrointestinal tract. The following data was received:

Bile "A"

Transparency Full

Color golden yellow

White blood cells 2-3 in the field of vision

Bile "B"

Transparency Full

Color dark green

White blood cells 5-10 in the field of vision

Bile "C"

Transparency Full

Color golden yellow

White blood cells 1-2 in the field of vision

How do you assess the result presented above? Is there a lesion of the biliary tract in this patient?

**Task 13**

Patients M and N, who are being treated in the therapeutic department, had complaints of pain in the right hypochondrium with radiation to the right shoulder and shoulder blade, which worsened after eating fatty and spicy food, accompanied by fever, nausea and vomiting with bile.

As a routine examination, he conducted a study of the duodenal contents; the following results were obtained:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Patient М | | Patient Н |
| Colour  White blood cells  Mucus  Transparency  Colour  White blood cells  Mucus  Giardia  Прозрачность  Цвет  Лейкоциты  Слизь | Bile “A”  Golden-yellow  2 – 3 in the field of view  no  Bile “B "  cloudy  dark green  20-30 in the field of view of  flakes, a significant amount  there is  Bile “C "  cloudy  golden yellow  1-2 in the field of view a little  bit | yellow  30-40 in the field of view  moderate  muddy with flakes of  dark green  cover the entire field  -  -  cloudy  yellow up  to 40 in the field of view there  is | |

What kind of diseases you can think of, with such data?

**Task 14**

All patients with a general clinical examination are required to conduct a urine test. Here is the most common version of a urine test. Rate it. Match your data with the discussion. Study of patient A who was admitted to the clinic with pain in the lumbar region

|  |  |
| --- | --- |
| delivered quantity | 70,0 (ml) |
| Color | straw-yellow |
| Reaction | acid |
| Specific gravity | 1020 |
| Transparency | full |
| Protein | no |
| leukocyte | 2-3 in the field of view |
| epithelial cells | 1 - 2 plane cells in field of view |

**Task №15**

Patients B and C went to a doctor due to the fact that they noticed unusual bloody-colored urine.

**The results of urinalysis**

|  |  |  |
| --- | --- | --- |
| Characteristics of urine | Patient B | Patient C |
| delivered quantity | 180,0 ml | 60,0 ml |
| Color | bloody | color of meat slops |
| Reaction | acid | acid |
| Specific gravity | 1017 | 1024 |
| Transparency | nebulous | little nebulous |
| Protein | 0,33 %о | 1,84 %о |
| Microscopy of precipitate  epithelial cells | plane, 10 - 11 in the field of view | renal, 1 - 2 in the field of view |
| leukocytes | no | 2-3 in the field of view |
| erythrocytes | fresh, 15 - 20 in the field of view | alkaline, 30-60 in the field of view |
| hyaline cylinders | no | 1-2 in the field of view |
| Salts | oxalates in large quantities | no |

What diseases can you think of from these tests? What are the signs that indicate this?

**Task 16**

The clinic was contacted by patient G, who for many years has suffered from bronchiectatic disease with frequent exacerbations, the release of a large amount of purulent sputum. Results of a urine test

|  |  |
| --- | --- |
| delivered quantity | 120,0 |
| Color | straw-yellow |
| Reaction | acid |
| Specific gravity | 1028 |
| Transparency | transparent |
| Protein | 16,30 %о |
| leukocytes | 2-3 in the field of view |
| cylinders | waxy, 0-1-2 in the field of view  hyaline 4-5-6 in the field of view  grainy, 2-3 in the field of view |
| Renal cell | 2-3-4 in the field of view |

What caused the changes in the urine? What is the nature of renal damage in this case?

**Task № 17**

Patient D has been suffering from nagging pain for a long time after childbirth. Therefore urine was analyzed.

**The results of urinalysis**

|  |  |
| --- | --- |
| delivered quantity | 40,0 ml |
| Color | straw-yellow |
| Reaction | alkaline |
| Specific gravity | 1008 |
| Transparency | nebulous |
| Protein | 0,33%о |
| precipitate | little, loose |
| epithelial cells | 1 - 2 plane cells in field of view |
| leukocytes | 2-3 in the field of view |
| erythrocytes | alkaline, 2-5 in the field of view |
| cylinders | hyaline, 0-1-2 in the field of view |

What disease can you think about in this case?

**Task № 18**

Patient E had cramps during urination after overcooling, what forced her to consult a doctor.

**The results of urinalysis**

|  |  |
| --- | --- |
| delivered quantity | 40,0 ml |
| Color | straw-yellow |
| Reaction | alkaline |
| Specific gravity | 1028 |
| Transparency | nebulous |
| Protein | 1,5 %о |
| Precipitate | purulent, viscous |
| Epithelial cells | cells of the bladder with steatosis, 10 in the field of view |
| leukocytes | cover the entire field of view |
| erythrocytes | fresh, 15-20 in the field of view |
| Salts | amorphous phosphates, tripelphosphates |
| Bacteria | significant amount |

What disease can be assumed in this case?

**Test 19**

Patient Chaliew N. X.

Bilirubin according to Iendrashek, indirect

reaction 16 mmol/l

glucose tolerance test on an empty

stomach-4.5 mmol / l

after 120 / - 5.6 mmol/l

ALT – 0.4 mmol/l

AST - 0.2 mmol / l

aldolase-0.1 mmol/(sec.l)

lactate dehydrogenase – 2.0 mmol/l

alkaline phosphotase-1.4 mccat/l

cholesterol-5.0 mmol/L blood

albumin-58.5 %

fibrinogen-3 g/l

sulem sample-1.8 ml

thymol sample – 3 units.

urinalysis

Bilirubin-negative

Urobilin- negative

fecal analysis

normal-colored feces

the Schmidt reaction is positive.

**Blood test 20**

Patient Chebotarev I. V.

Bilirubin according to Iendrashek:

general-65.0 mmol/l

indirect – 20.0 mmol/l

direct-45.0 mmol/l

glucose tolerance test on an empty

stomach-5.6 mmol / l

after 120 / - 10.0 mmol/l

ALT – 0.8 mmol/l

AST-0.6 µmol / l

aldolase-0.15 µmol/(sec. l) lactate

dehydrogenase-4.5 µmol/l

alkaline phosphotase-0.15 mccat/l

cholesterol-4.0 mmol/l

blood albumins – 50 %

fibrinogen-1.8 g/l

sulem sample-4.0 ml

thymol sample – 7 units.

urinalysis

Bilirubin- positive.

Urobilin- positive.

fecal analysis

There are traces of stercobilin in the feces

**Test 21**

Patient Petrov K. S.

Bilirubin according to Iendrashek:

total-215.0 mmol / l

direct-35.0 mmol/l

indirect-180.0 mmol/l

glucose tolerance test on an empty

stomach-5.4 mmol / l

after 120 / - 8.8 mmol/l

ALT – 0.75 mmol/l

AST – 0.52 mmol/l

aldolase-0.17 µmol/(sec. l) lactate

dehydrogenase – 5.2 µmol/l

alkaline phosphotase-0.7 mccat/l

cholesterol-3.8 mmol / l blood

albumins-49 %

fibrinogen-1.7 g/l

sulem sample – 3.8 ml

thymol sample-8 units.

urinalysis

Bilirubin positive.

Urobilin positive.

fecal analysis

There are traces of stercobilin in the feces

**Blood test 22**

Patient Batrakova L. I.

Bilirubin according to Iendrashek, direct

reaction 68 mmol/l

glucose tolerance test on an empty

stomach-4.2 mmol / l

after 120 / - 5.3 mmol/l

ALT – 0.3 mmol/l

AST – 0.2 mmol / l

aldolase-0.07 mmol/(sec. l) lactate

dehydrogenase – 0.9 mmol/l

alkaline phosphotase-3.4 mccat/l

cholesterol-6.2 mmol / l

albumins-58 %

fibrinogen-2 g / l

sulem sample-1.8 ml

thymol sample – 4 units.

urinalysis

Bilirubin-positive.

Urobilin – negative.

fecal analysis

Schmidt's reaction to

stercobilin is negative.

**Blood test 23**

Patient Agarkov P. N.

Bilirubin according to Iendrashek, direct

reaction 229 mmol/l

glucose tolerance test on an empty

stomach-3.8 mmol / l

after 120 / - 5.8 mmol/l

ALT – 0.6 mmol/l

AST-0.45 µmol / l

aldolase-0.11 µmol/(sec. l) lactate

dehydrogenase – 3.0 µmol/l

alkaline phosphotase-4.0 mccat/l

cholesterol-7.0 mmol / l

albumins-62 %

fibrinogen-2 g / l

sulem sample-2.0 ml

thymol sample-2 units.

urinalysis

Bilirubin-positive

Urobilin – negative.

fecal analysis

Schmidt's reaction to

stercobilin is negative.

**Blood test 24**

Patient Fokin M. V.

Bilirubin according to Iendrashek, indirect

reaction 116 mmol/l

glucose tolerance test on an empty

stomach-4.0 mmol / l

after 120 / - 5.9 mmol/l

ALT – 0.5 mmol/l

AST – 0.2 µmol / l

aldolase-0.08 µmol/(sec. l) lactate

dehydrogenase-1.0 µmol/l

alkaline phosphotase-1.0 mccat/l

cholesterol-4.8 mmol / l

albumins-60 %

fibrinogen-2 g / l

sulem sample-1.8 ml

thymol sample – 3 units.

urinalysis

Bilirubin-negative.

Urobilin-positive

analysis of feces

feces of dark color

Schmidt reaction ( + )

**Blood test 25**

Patient Vardanyan N. H.

Iendrashek bilirubin, indirect

reaction 58 µmol/l fasting

glucose tolerance test

3.8 mmol / l

after 120 / - 6.0 mmol/l

ALT – 0.4 mmol/l

AST-0.1 µmol / l

aldolase-0.06 µmol/(sec. l) lactate

dehydrogenase – 0.8 µmol/l

alkaline phosphotase-0.7 mccat/l

cholesterol-5.0 mmol/L blood

albumin-56 %

fibrinogen-1.9 g/l

sulem sample-1.6 ml

thymol sample-1 unit.

urinalysis

Bilirubin-negative.

Urobilin – position.

fecal analysis

dark-colored feces

**Blood test 26**

Patient Tarasov I. P.

Bilirubin according to Iendrashek, indirect

reaction 64 µmol/l

glucose tolerance test on an empty

stomach-4.2 mmol / l

after 120 / - 5.6 mmol/l

ALT – 0.3 mmol/l

AST – 0.4 µmol / l

aldolase-0.13 µmol/(sec. l) lactate

dehydrogenase-2.0 µmol/l

alkaline phosphotase-1.5 mccat/l

cholesterol-4.7 mmol / l blood

albumins-62 %

fibrinogen-3 g/l

sulem sample-2.0 ml

thymol sample – 4 units.

urinalysis

Bilirubin-negative.

Urobilin-positive

fecal analysis

Schmidt's reaction to stercobilin is

sharply positive

**Blood test 27**

Patient Harutyunyan R. A.

Bilirubin by Andrasko,

indirect reaction 38 µmol/l

fasting glucose tolerance test - 5.0 mmol / l

after 120 / - 6.5 mmol/l

ALT – 0.6 mmol/l

AST-0.35 µmol / l

aldolase-0.1 µmol/(sec. l) lactate

dehydrogenase – 3.0 µmol/l

alkaline phosphotase-2.0 mccat/l

cholesterol-5.1 mmol/L blood

albumin-64 %

fibrinogen-3.5 g/l

sulem sample-1.9 ml

thymol sample-5 units.

urinalysis

Bilirubin-negative.

Urobilin-positive

fecal analysis

dark-colored feces

**Blood test 28**

Patient Sokolov D. M.

Bilirubin according to Iendrashek:

total-410.0 mmol / l

direct-100.0 mmol/l

indirect-310.0 mmol/l

glucose tolerance test on an empty

stomach 6.2 mmol / l

after 120 / - 11.3 mmol/l

ALT – 1.3 mmol/l

AST-0.9 µmol / l

aldolase-0.19 µmol/(sec. l) lactate

dehydrogenase – 6.4 µmol/l

alkaline phosphotase-0.2 mccat/l

cholesterol-4.2 mmol/l blood

albumin-42 %

fibrinogen-1.5 g/l

sulem sample-4.0 ml

thymol sample-10 units.

urinalysis

Bilirubin- positive

Urobilin- positive

fecal analysis

There are traces of stercobilin in the feces

**Test 29**

Patient Shmakov L. E.

Bilirubin according to Iendrashek, direct

reaction 58.5 mmol/l

glucose tolerance test on an empty

stomach-4.6 mmol / l

after 120 / - 5.6 mmol/l

ALT – 0.4 mmol/l

AST - 0.4 mmol / l

aldolase-0.1 mmol/(sec.l)

lactate dehydrogenase – 2.0 mmol/l

alkaline phosphatase-2.8 mccat/l

cholesterol-6.0 mmol/l

blood albumins – 60 %

fibrinogen – 3 g / l

sulem sample-1.8 ml

thymol sample – 3 units.

urinalysis

Bilirubin- positive

Urobilin – negative.

fecal analysis

Schmidt's reaction to

stercobilin is negative.

**Blood test 30**

Patient Vasiliev N. M.

Bilirubin according to Iendrashek:

total-265.0 mmol / l

direct-55.0 mmol/l

indirect-210.0 mmol/l

glucose tolerance test on an empty

stomach-6.0 mmol / l

after 120 / - 10.6 mmol/l

ALT – 1.02 mmol/l

AST-0.71 µmol / l

aldolase-0.16 µmol/(sec. l) lactate

dehydrogenase – 5.8 µmol/l

alkaline phosphotase-0.12 mccat/l

cholesterol-3.5 mmol / l blood

albumins-45 %

fibrinogen-1.9 g/l

sulem sample – 5.2 ml

thymol sample-11ed.

urinalysis

Bilirubin-will put.

Urobilin-put it down.

fecal analysis

There are traces of stercobilin in the feces.

The Schmidt reaction (+ -).

**Blood test 31**

Patient Idrisova M. V.

Bilirubin according to Iendrashek, indirect

reaction 116 mmol/l

glucose tolerance test on an empty

stomach-4.0 mmol / l

after 120 / - 5.9 mmol/l

ALT – 0.5 mmol/l

AST – 0.2 µmol / l

aldolase-0.08 µmol/(sec. l) lactate

dehydrogenase-1.0 µmol/l

alkaline phosphotase-1.0 mccat/l

cholesterol-4.8 mmol / l

albumins-60 %

fibrinogen-2 g / l

sulem sample-1.8 ml

thymol sample – 3 units.

urinalysis

Bilirubin-negative.

Urobilin- positive

fecal analysis

dark-colored feces

Schmidt reaction ( + )

Task 32

In the therapeutic department, patients A and B were simultaneously treated, who had a history of chronic gastritis with secretory insufficiency. The usual stomach complaints were joined by sharp weakness, fatigue, and pallor of the skin.

In the blood test, the following data were obtained:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Patient А | Patient B | |
| Red blood cells  Hemoglobin  Color Index  Reticulocytes  Platelets  ESR  White blood cells  Eosinophils  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Normoblasts  Hematocrit | 2150000 – 2,15 . 1012/l  80 g/l  0,7  3 %  220 10 9/ л – 220 . 10 9/ л  7 mm/h  8000 – 8 . 109/л  2  5  66  26  1  3 – 4 на 100  33 % | | 1 млн. – 1 . 1012/l  37 g/l  1,1  13 %  35 mm/h  8000 – 8 . 109/l  2  1  47  42  8  megaloblasts, megalocytes,  poikilocytosis, anisocytosis  31 % |

What are the associated symptoms? What complication can you think of with such blood tests?

Task 33

The department received a patient with complaints of heaviness in the head, headaches, tinnitus. On examination, a “full-blooded” skin color is noted, especially on the face and hands. Blood pressure increased to 170/100 mm Hg. Palpation increased liver and spleen.

Blood test:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Indicator  ESR  Platelets  White blood cells  Eosinophils  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Hematocrit | 7 . 1012 /l – 7 . 1012 /l  190 g/l  0,91  2 mm/h  1 mln. – 1000000 . 109/l  10000 – 10 . 109/l  2  1  66  24  7  58 % |

Blood clotting and bleeding time are not changed. What kind of disease can you think about with such data?

**Task 34**

A patient with an unclear diagnosis was admitted to the hospital. I noted weakness, lack of efficiency, high temperature. The patient is scheduled for an examination to clarify the diagnosis. In the blood test, the following data were obtained:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Indicator  ESR  White blood cells  Basophils  Eosinophils  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Hematocrit | 4000000 – 4 .  130g/l  0,87  25 mm/h  15000 – 15 . 109/l  1  1  16  57  20  5  44 % |

What does this analysis indicate?

**Task 35**

The department received a patient with unclear attacks of suffocation, which occur mainly in the summer. After the attack, a thick mucous sputum is released. In the order of examination, the patient's blood and sputum are sent for analysis. The following data were found in the blood:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Indicator  ESR  White blood cells  Eosinophils  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Hematocrit | 4780000 – 4,78 . 1012/l  144 g/l  0,9  8 mm/h  5800 – 5,8 . 109/l  12  4  60  20  4  48 % |

What can you think about from such a blood test? What data do you expect to get when analyzing sputum?

**Task 36**

The patient went to the clinic due to the fact that she began to notice the appearance of bruises on the skin, appearing spontaneously or from a slight bruise, sometimes nosebleeds. The blood test revealed:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Index  White blood cells  Stick-core  Segmented Cores  Lymphocytes  Monocytes  ESR  Platelets  Hematocrit | 3,8 mln. – 3,8 . 1012/l  120 g/l  0,95  6000 – 6 . 109/l  4  70  20  6  12mm/h  50000 – 50 . 109/l  38 % |

Blood clotting time is not changed. Bleeding time is 15 minutes. With thromboelastography, a sharp slowdown in the reaction time and the formation of a blood clot is determined. What disease are you thinking about?

**Task 37**

The patient went to the doctor in connection with the heaviness in the left hypochondrium. However, long before that, I was worried about weakness, fatigue, excessive sweating, and subfebrility. On examination, the doctor found an enlarged spleen. The blood test showed the following changes:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Index  ESR  White blood cells  Myeloblasts  Promyelocytes  Myelocytes  Young people  Stick-core  Segmented Cores  Lymphocytes  Monocytes  Hematocrit | 2800000 – 2,8 . 1012/l  67 g/l  0,5  30 mm/h  100000 – 100 . 109/l  5  10  23  7  21  24  7  3  36 % |

**Task 38**

The patient went to the doctor due to the fact that she began to notice general weakness, malaise, fatigue, sweating, fever to subfebrile numbers. The following changes were detected in the blood test:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Index  ESR  White blood cells  Eosinophils  Segmented Cores  Lymphoblasts  Lymphocytes  Monocytes  Hematocrit | 2,8 mln – 2,8 . 1012/l  77 g/l  0,5  26 mm/h  150000 – 150 .  109/l  2  5  2  88  3  31 % |

What disease did the doctor think of? What confirms this diagnosis?

**Task 39**

The doctor was contacted by the patient about pain in the throat when swallowing, high fever of the remitting type, chills, sharp weakness. On examination, there was a picture of necrotic angina. A blood test was scheduled, in which the following changes were detected:

|  |  |
| --- | --- |
| Red blood cells  Hemoglobin  Color Index  ESR  White blood cells  Myeloblasts  Stick-core  Segmented Cores  Lymphocytes  Hematocrit | 2150000 – 2,15 . 1012/l  80 g/l  0,7  40 mm/h  100000 – 100 . 109/l  80  1  11  8  28 % |

Sternal punctate. In the sternal punctate, the content of erythroblastic germ cells is sharply reduced, myeloid cells predominate, mainly young forms-promyelocytes, myelocytes and metamyelocytes. What diagnosis can be made in this case?

**Task 40**

Patient M, 54 years old, is being treated in a hospital for a tumor in his lung. The nurse who performed the doctor's appointments, during the next manipulation, told the patient that his condition was hopeless and treatment would not bring any results, perhaps he would develop lung cancer. What, according to the principles of medical ethics, could a nurse say?

**Task 41**

Patient T., 80 years old, with a stroke, was admitted to the emergency department. The patient's condition is serious, is in a deep sopor. But hospitalization in the intensive care unit was refused. The relatives of the patient were very indignant and demanded an explanation from the doctor on duty. He motivated his decision by the fact that he does not want to waste his time in vain, since the patient is elderly and the prognosis of his disease is unfavorable, and at any time a young patient can be admitted, who has a greater probability of a favorable outcome. Describe the correct tactics of the doctor.

**Task 42**

The woman has a temperature of 39.7 ° C, called to call the ambulance team. At her request to come, she was advised to take pills. The woman said that she is a disabled person of group 2, suffers from epilepsy and her condition is gradually getting worse, to which the dispatcher was rude to the woman, asked not to disturb them for nothing and hung up. No one answered the second call. Describe the correct tactics of the dispatcher.

**Standards of responses to situational tasks**

**Task 1**

The described attacks of suffocation refer to very frequent conditions in the clinic-bronchial (patient A) and cardiac (patient B) asthma.

With bronchial asthma, sputum is released little, and with cardiac asthma-a lot. In cardiac asthma, sputum is formed by sweating through the vascular wall of plasma with single shaped elements (red blood cells), so it is serous in nature, liquid, foamy and pink. In bronchial asthma, sputum is a thick, viscous mucus, which contains cells of the ciliated cylindrical (bronchial) epithelium and pathognomonic signs for bronchial asthma. In particular, eosinophils, Charcot-Leyden crystals, which are formed from decaying eosinophils, and Curschmann spirals, which are slimy formations containing eosinophils, and sometimes Charcot-Leyden crystals.

**Task 2**

Both patients have a disintegration of the lung tissue, as evidenced by the presence of purulent, double-layered sputum, elastic fibers. At the heart of this decay is an inflammatory process, the etiology of which is not the same for them. In patient B, the inflammation is caused by streptococci, and in patient G, by Koch's tubercle bacillus. Based on this study, in the first case, we can talk about a chronic lung abscess that occurred after pneumonia, and in the second – about the tuberculosis process in the lungs, complicated by the formation of a cavity.

**Task 3**

Both patients developed complications from the bronchopulmonary apparatus after acute respiratory disease (ARI). Sputum is caused by an inflammatory process, as evidenced by the detection of white blood cells, mucus, and microorganisms. However, there is a difference: in patient A, a cylindrical ciliated epithelium was found in the sputum in groups, which indicates the localization of the process in the trachea and bronchi, in patient B-alveolar epithelium, which occurs in inflammation of the lung tissue.

**Task 4**

In patient A, sputum is inflammatory in nature. This is indicated by the mucopurulent nature, a large number of white blood cells. The presence of alveolar epithelium indicates the localization of the process in the lungs, and the detection of pneumococci indicates the etiological factor of inflammation. Patient B secretes sputum in the form of raspberry jelly, which is a pathognomonic sign of lung cancer. This is also evidenced by the detection of atypical cells. It is known that atypical cells are found in malignant neoplasms. They differ sharply from the cells of the respiratory tract, have different sizes, and are fat or vacuolated. In both cases, we have the lung tissue infiltration syndrome, but in the first patient it is associated with lung inflammation, and in the second – with the development of tumor tissue.

**Task 5**

In patient A, the pleural fluid is a transudate, since it contains a small amount of protein (less than 3 %), has a low specific gravity (less than 1015). In the fluid, there is no inflammatory protein-serozomucin (negative Rivalt reaction), single cellular elements are found.

Transudate occurs in chronic heart failure, and therefore this patient should be examined to clarify the nature of the heart lesion.

In patient B, exudate was obtained (specific gravity greater than 1020, protein greater than 3 %, positive Rivalt reaction). Microscopic examination revealed many lymphocytes. Among the etiological factors of exudative pleurisy, tuberculosis is in the first place. Therefore, this patient should be examined and treated by a phthisiologist.

Patient B also received exudate. However, it has some features: a bloody color, contains a large number of red blood cells and atypical cells. In this case, it should be assumed-a malignant lesion of the pleura (metastatic contamination or lung cancer).

**Task 6**

On an empty stomach, there is a small amount of juice in the stomach (no more than 50 ml), with low figures of total acidity. After a trial breakfast, the total and free acidity does not exceed the norm. There is a normal evacuation from the stomach. Microscopy revealed individual epithelial cells and the nuclei of white blood cells.

Thus, in this case, the study of gastric juice pathology in patient A was not revealed.

**Task 7**

The obtained tests of gastric juice in patients B and C have a lot in common. So, there is hypersecretion on an empty stomach (the amount of juice is more than 50 ml). The total and free acidity in individual portions exceeds the norm (60 and 40 units, respectively). However, some differences are also revealed. So, the patient's evacuation from the stomach is somewhat slowed down (the staining of gastric juice disappears only after 1.5 hours, against 1 hour). In all portions there is an admixture of blood (which indicates gastric bleeding). This is also confirmed by the detection of red blood cells during microscopic examination.

This combination of hypersecretion, hyperacid state, and blood admixture in the gastric contents is characteristic of peptic ulcer disease.

In patient B, in addition to the above changes, a lot of mucus, white blood cells, and gastric epithelium were found. The combination of hypersecretion, hyperchlorhydria, and inflammatory changes is characteristic of chronic gastritis with increased secretory function.

**Task 8**

In both patients, hyposecretion was detected – there is no gastric juice on an empty stomach, and after a trial breakfast, the amount of juice is very small (less than 50 ml). The total acidity is reduced, and the free one is absent (achlorhydria). Usually, it is possible to finally judge the possibility of producing hydrochloric acid only after conducting a histamine test. The evacuation of the stomach is also accelerated (after 45 minutes, the color of the stomach contents disappears).

No rennet was found in patient H, indicating achilia. Microscopy of the gastric contents revealed a significant number of white blood cells, not altered epithelial cells, which indicates an inflammatory process in the stomach. Thus, the patient has evidence in favour filchenkova gastritis.

In patient K, lactic acid and blood were found in the gastric contents. Microscopy revealed no data for the inflammatory process, but various microorganisms were found. Normally, they are not present, but they appear in the absence of the bactericidal action of hydrochloric acid. The data obtained from him is suspicious for stomach cancer, as there are signs of bleeding, which in this situation may be due to the disintegration of the tumor tissue.

**Task 9**

Cancer of the stomach.

**Task 10**

Peptic ulcer: ulcer of the bulb of the 12-p. intestine.

**Task 11**

By the copious amount of vomit with the content of food in them, eaten a few days ago, you can suspect the stenosis of the pylorus. This diagnosis is confirmed by the patient's complaints of heaviness, a feeling of fullness in the stomach. Pyloric stenosis develops with scarring of a duodenal ulcer or stomach cancer. The absence of hydrochloric acid in the stomach contents indicates stomach cancer.

**Task 12**

All portions of bile have their characteristic color, are transparent, and contain single white blood cells. In the portion " B "there are always a few more white blood cells than in the portions" A " and "C", since the cystic bile is more concentrated. Pathological impurities (mucus, salt crystals, parasites) are absent in them.

Based on this, it can be concluded that the patient has a normal bile composition, and therefore there is no damage to the bile ducts.

**Task 13**

In patient M, there are pathological changes only in the portion "B", that is, in the bubble portion. Bile contains a lot of white blood cells, mucus in the form of flakes, which indicates an inflammatory process in the gallbladder. The presence of giardia in it indicates the etiological factor of this inflammation (giardial cholecystitis).

In patient H, large amounts of white blood cells and mucus were found in all portions. Based on these data, it is possible to think about the presence of cholecystitis in the patient in combination with cholangitis.

**Task 14**

The presented analysis is normal, since the urine has a straw-yellow color, an acidic reaction, and complete transparency. In the urine, there is no protein and other pathological components (sugar, bile pigments, acetone bodies, and others). Microscopic examination revealed single white blood cells and squamous epithelial cells that enter the urine from the external genitalia.

Pain in the lumbar region in patient A cannot be associated with kidney disease.

**Task 15**

In patients B and C, first of all, the bloody color of the urine should be noted. The urine is acidic, cloudy, with a normal specific gravity. There is also protein in the urine, but in the first case (patient B) it is very small, and in the second (patient C) it reaches 1.84 %. There are differences in the nature of the epithelium. In the first case, it is flat, that is, it enters the urine from the urethra and from the external genitals. In the second case-renal, indicating kidney damage. In the urine, red blood cells were found, which in the case of B are fresh (extrarenal), from the urinary tract. In the case of B-leached, that is, passed through the wall of the capillaries of the renal glomeruli. The presence of large amounts of salts (oxalates) in the urine indicates the possibility of the presence of stones. Hyaline cylinders, identified in patient B, are protein formations of tubular origin and are found in kidney diseases. Thus, patient B has a urinary tract lesion associated with urolithiasis. In a patient with B -, it is necessary to think about the defeat of the renal parenchyma. The presence of a large amount of protein, altered red blood cells, with a normal specific gravity-is characteristic of acute glomerulonephritis without impaired renal function.

**Task 16**

Draws attention to the presence of a large amount of protein and cylinders in the urine. It is known that the cylinders are protein and cellular formations of tubular origin. They are found in dystrophic processes in the tubules. Granular cylinders are formed from decayed cells of the renal epithelium. Waxy cylinders are characteristic of chronic kidney diseases.

The cause of such dystrophic changes is a chronic suppurative process, in particular, in the lungs. Amyloidosis develops in parenchymal organs, including the kidneys (amyloid is a protein-carbohydrate complex deposited in the intercellular substance of the organ parenchyma).

**Task 17**

A number of pathological signs were found in the urine: the reaction of urine to alkaline was changed, its turbidity was noted, its specific gravity was reduced, and protein in the amount of 0.33% o was detected. Microscopic examination revealed leached red blood cells, single hyaline cylinders, which are protein formations of tubular origin. A low specific gravity of urine indicates a decrease in the concentration function of the kidneys. Protein and leached red blood cells appear with increased vascular permeability of the glomeruli of the kidneys. The combination of such changes is characteristic of chronic kidney damage, with the involvement of the glomeruli (chronic glomerulonephritis).

**Task 18**

The patient has clearly abnormal urine. It is cloudy, with an alkaline reaction, although the specific gravity of urine is not reduced. Microscopy of the sediment of the bladder cells, the mass of white blood cells, bacteria, which indicates an inflammatory process in the bladder. In addition, fresh red blood cells and salts were found, which indicates the presence of stones and possible traumatization of the mucous membrane. The protein in this case has an extrarenal origin (due to the shaped elements-pus). Thus, the existing suppurative changes in the urine of patient E, give grounds to diagnose urolithiasis with the phenomena of cystitis.

**Task 19**

No pathology.

**Task 20**

Parenchymal jaundice.

**Task 21**

Parenchymal jaundice.

**Task 22**

Mechanical jaundice

**Task 23**

Mechanical jaundice

.

**Task 24**

Hemolytic jaundice.

**Task 25**

Hemolytic jaundice.

**Task 26**

Hemolytic jaundice.

**Task 27**

Hemolytic jaundice.

**Task 28**

Parenchymal jaundice.

**Task 29**

Mechanical jaundice

**Task 30**

Parenchymal jaundice.

**Task 31**

Hemolytic jaundice.

Task 32

In both cases, there was a decrease in red blood cells and hemoglobin, i.e. there is anemia. However, there are a number of differences.So in the case of A, the color index is also reduced, i.e. the anemia is hypochromic.

In the case of B, the color index is increased, i.e. the anemia is hyperchromic.

The increased content of reticulocytes in both tests indicates a good regenerative function of the bone marrow. A significant difference is the morphological feature of blood cells. In the first case, in addition to normal blood cells, normoblasts were detected, which indicates a normoblastic type of hematopoiesis. In the second case, megaloblasts and megalocytes were found, which is found in the megaloblastic type of hematopoiesis.

In anemia, the size of red blood cells often changes, which is called anisocytosis. Often, along with anisocytosis, there is a change in their form-poikilocytosis. Anisocytosis and poikilocytosis are most common in megaloblastic anemia caused by vitamin B12 deficiency.

It is known that in the absence of hydrochloric acid and pepsin in the gastric juice, iron salts, vitamin B12 and others are poorly absorbed. At the same time, hypochromic (iron – deficient) anemia and hyperchromic (B12-deficient) anemia may develop.

Task 33

In the blood, there is an increase in the content of red blood cells, white blood cells and platelets. The leukocyte formula is not changed. The color indicator is less than one. Due to an increase in the content of blood cells and, accordingly, the blood viscosity, ESR is slowed down. This combination of changes is characteristic of erythremia (Wakez disease).

Task 34

There is no pathology on the part of the red blood. There is an increase in the number of cells to 15000 shift formula to the left (increasing the number of band cells), increased ESR. On the basis of such data, it is possible to suspect an inflammatory process in the body, the localization of which must be established by additional methods.

Task 35

In this case, there are no deviations from the norm on the part of the red blood. ESR is within the normal range. Only the leucoformula was changed due to an increase in eosinophils. As you know, the number of eosinophils increases with allergic processes, helminthic invasion. The combination of the clinical picture with such an analysis suggests bronchial asthma, which is based on some allergen (atopic asthma). This is confirmed by the detection of eosinophils, Charcot-Leyden crystals, and Curschmann spirals in sputum.

Task 36

In this case, there is a slight decrease in the number of red blood cells with a normal white blood cell formula. The number of platelets is significantly reduced (the norm is 250 – 300 thousand), which caused the presence of hemorrhagic syndrome in the patient. In combination with the clinical picture, in this case, we can think of Werlhof's disease.

A decrease in the platelet count is one of the causes of hemorrhagic syndrome. Other causes may be disorders of the coagulation system and vascular wall permeability.

Task 37

In the blood, the content of white blood cells is increased, the absolute majority of them are granulocytes, along with mature cells, young cells, myelocytes, promyelocytes, myeloblasts, which is found in chronic myeloid leukemia, are identified. In parallel, changes in red blood were noted (the number of red blood cells and hemoglobin decreased, the color index decreased), which fit into hypochromic anemia. Along with this, an increase in ESR was noted.

Such changes are characteristic of the pronounced stage of chronic myeloid leukemia.

**Task 38**

1. After receiving such a blood test, the doctor should pay attention to the condition of red and white blood. An increase in the number of white blood cells to 150,000 was found, with the bulk of them represented by lymphocytes. There is a small number of young cells-lymphoblasts. Such changes are characteristic of chronic lymphocytic leukemia. On the part of the red blood, there is hypochromic anemia (the number of red blood cells and hemoglobin is reduced, the color index is less than 1.0). The phenomenon of anemia usually joins in the terminal period.

2. Ultrasound of internal organs, liver, spleen, sternal puncture.

3. Multiple organ failure.

**Task 39**

Attention is drawn to the content of a large number of white blood cells, and 80 % of them are young, immature cells. Between them and mature white blood cells, there is a hiatus leucaemicus-i.e., a leukemic failure. This blood pattern is typical for acute myeloid leukemia.

Due to the rapid proliferation of erythroblasts from the bone marrow in patients, there is a decrease in the number of red blood cells.

**Task 40**

The nurse did not have the right to transmit all the information that the specialists possess and had to respond as follows: "I would love to discuss this topic with you, I understand that it is important for you to know all this, but unfortunately, I do not have the full information, so I recommend that you talk about it with your doctor."

**Task 41**

The refusal of a doctor to hospitalize a patient cannot be motivated by the preference of one patient to another on the basis of any attribute (nationality, age, prognosis of the disease, etc.), which violates the basic ethical and deontological rules in medicine. He was obliged to provide emergency medical care as soon as possible, considering the possibility of using thrombolytic therapy.

**Task 42**

The emergency medical dispatcher must act according to his job description. Hanging up the phone and not answering calls is a gross violation of professional duties.

**Test tasks** for the intermediate certification are formed on the basis of the submitted theoretical questions and practical tasks.

Students are tested on paper.

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**A package of test tasks for conducting intermediate certification**

Choose the correct answer

**1variant**

1 Which method should be called a subjective survey method:

1)interview the patient (or their relatives)

2)inspection

3)palpation

4)percussion

2 Inspiratory dyspnea is:

1)it is difficult to inhale

2)it is difficult to exhale

3)it is difficult to inhale and exhale

4)hard to breathe in lying position

3 Sputum in case of pulmonary edema:

1)mucous

2)muco-purulent

3)purulent

4)bloody

5)serous

4 Gastric bleeding is accompanied by:

1)vomiting in the form of "coffee grounds"

2)flatulence

3)vomiting of food eaten the day before

4)discolored feces

5 Biot breathing is seen in:

1)flail chest

2)high altitude

3)uremia

4)lesion in the brain

6 Bright red palms are:

1)if you have kidney disease

2)diseaseof the stomach

3)liver disease

4)the gallbladder disease

7 Bronze color of the skin is observed in pathology:

1)pituitary

2)adrenal glands

3)the pancreas

4)thyroid

8 Icteric colouring first of all appears at the:

1)frenum of the tongue

2)soft palate

3)facial skin

4)sclera

5)hand palm

9 Peripheral cyanosis is manifestation of:

1)renal failure

2)hepatic insufficiency

3)heart failure

4)malabsorbtrion syndrome

5)adrenal insufficiency

10 Medical ethics is:

1)a specific manifestation of General ethics in the work of a doctor

2)science that addresses issues of medical humanism, the problems of duty, honor, conscience and в)dignity of medical workers

3)science that helps to develop a doctor's ability to moral orientation in difficult situations that д)require high moral, business and social qualities

4)all of the above is true

5)there is no correct option

11 For the deontological model of doctor-patient relations, the main principle is:

1)do your duty

2)don't commit adultery

3)keep your doctor's secret

4)help a colleague

5)principle of non-intervention

12The main distinguishing feature of a doctor's professional ethics is:

1)right to deviant behavior

2)conscious choice of moral principles and rules of behavior

3)criminal liability for non-compliance with professional ethical standards

4)the absolute necessity to subordinate personal interests to corporate interests

5)priority of the interests of medical science over the interests of a particular patient

13Patient T., 80 years old with stroke of the brain (apoplectic stroke), was admitted to the admission Department. The patient is in a serious condition and is in a deep sopor. But hospitalization in the intensive care unit was refused. Relatives of the patient were very indignant and demanded an explanation from the doctor on duty. His decision was motivated by the fact that he does not want to waste his time in vain, since the patient is elderly and the prognosis of his disease is unfavorable, and at any time a young patient, who has a greater probability of a favorable outcome, may arrive. Choose the right doctor's tactics:

1)a doctor's refusal to hospitalize a patient cannot be motivated by preference of one patient to another on the basis of any characteristic (nationality, age, prognosis of the disease, etc.), which violates the basic ethical and deontological rules in medicine

2)the doctor is right, he correctly justified his refusal of hospitalization

3)he was required to provide emergency medical care as soon as possible, considering the possibility of applying thrombolytic therapy

4)it is necessary to leave the patient in the admission Department and if no one arrives within an hour, then hospitalize

14 Strengthening of the voical (tactile) fremitus is typical for:

1)hydrothorax

2)lung abscess in the stage cavity

3)emphysema

4)total obstructive atelectasis.

15 "Wooden belly" is characteristic for palpation:

1)chronic gastritis

2)gastric ulcer

3)perforated ulcer

16 The symptom of "two hammers" is determined by palpation when:

1)mitral regurgitation

2)aortic stenosis

3)mitral stenosis

17 In palpation Shchetkin-Blumberg’s positive symptom is characteristic of:

1)syndrome of «acute abdomen»

2)stenosis of the pylorus

3)gastric ulcer and duodenal ulcer

18 Pasternatsky's sign is:

1)tenderness to percussion in the lumbar region

2)presence of dense edemas in infraorbital areas

3)skin waxen pallor

4)tenderness to bimanual kidneys palpation

5)nocturia

19 When percussion of the chest over empty lung abscess cavity or in caverna a percussion sound is expected:

1)intermediate (slightly dull)

2)dull

3)resonant (clear pulmonary)

4)tympanic

20 The left contour of cardiac dullness is formed by:

1) the left part of the aortic arch, pulmonary trunk, left atrium and left ventricle

2)the left part of the aortic arch, left atrium and left ventricle

3)the left part of the aortic arch and the left ventricle

4)left ventricle

21 Left border of heart is formed by:

1)apex of the right ventricle

2)the tip of the left ventricle

3)Left atrium

4)the left atrium and ventricle

22 In percussion of lungs Ellis - Damuazo line is determined in case of:

1)hydrothorax

2)pneumothorax

3)pleural effusion

23 What heart chambers are first of all hypertrophied in mitral stenosis?

1)left atrium, right ventricle

2)left atrium, left ventricle

3)right atrium, right ventricle

4)both ventricles

5)both atria

24 Dry rales are formed by:

1)when opening walls of the alveoli

2)swelling of the bronchial mucosa and spasm

3)the presence of liquid sputum in the lumen of the bronchus

4)infiltration of the lung tissue.

25 What breathing is auscultated over the lung fields in norm:

1)bronchial

2)vesicular

3)weakened

4)pulmonary

26 What caused the apearance of quiet wet small bublling rales:

1)viscous sputum in large bronchi

2)viscous sputum in fine bronchi and/or spasm

3)liquid sputum in large bronchi or cavities communicating with a bronchus

4)liquid sputum in small bronchi while maintaining the airiness of the surrounding lung tissue

5)liquid sputum in small bronchi and inflammatory sealing of the surrounding lung tissue

27 During auscultation of the patient with pain in chest student listened to the noise in both phases of respiration, reminiscent of the crunch of snow under foot. How do you call this auscultatory phenomenon:

1)pleural friction

2)crepitus

3)dry rales

4)wet rales

5)bronchial breath

28 Murmur heard in aortic stenosis:

1)right 2nd intercostal, low pitch murmur

2)apex, low pitch murmur

3)left sternal area, low pitch murmur

4)pan-systolic murmur, high pitch murmur

29The patient has cardiac asthma, what is heard on the base of the heart:

1)accent of the second tone on the aorta

2)accent II tone on the pulmonary trunk

3)weakening of the II tone on the aorta

4)weakening of the II tone on the pulmonary trunk

30 The components of II tone are all listed, except:

1)vascular component

2)opening of atrioventricular valves

3) the contraction of the ventricles

4)the closure of the semilunar valves

31 Pathologic bronchial breath sound – amphoric variant – is heard in:

1)emptying lung abscess

2)emphysema

3)crupous pneumonia

4)chronic bronchitis

5)dry pleuritis

32 In severe mitral incompetence S1 at the apex is:

1)diminished

2)enhanced

3)not changed

4)splitted

5)doubled

33 The condition of the ventricles characterized by:

1)P wave

2)the interval PQ

3)QRS complex

4)the RR interval

34 The condition of the atria is characterized by the wave:

1)P

2)T

3)S

4)Q

35In the pathology of the gall bladder what portion is changed:

1)A

2)B

3)C

36 For determining of formed elements in urine they use:

1)clinical urine analysis

2)Zimnitsky test

3)Nechiporenko test

4)urine culture

37 Portion " B " of bile has the color:

1)white

2)olive

3)light yellow

4)dark yellow

38 Daily diuresis is 300 ml — this is:

1)anuria

2)nocturia

3)oliguria

4)polyuria

39Normal number of segmented neutrophils in a leukogram (in%):

1)20-40

2)47-72

3)6-8

4)0-1

40 Internal jugular vein pressure determines pressure of:

1)RA

2)LA

3)RV

4)LV

41 White blood cells in the urine is called:

1)bacteriuria

2)hematuria

3)cylinders

4)albuminuria

5)leukocyturia

42Number of red blood cells in the urine analysis according to Nechiporenko (in 1 ml) up to:

1)1 x 103

2)3 x 103

3)5 x 103

4)7 x 103

43 The normal amount of hemoglobin in women is (g / l):

1)12-16

2)80-100

3)120-140

4)180-200

44 Fasting blood glucose is normal (mmol / l)

1)1,1-2,2

2)3,3-5,5

3)6,6-8,8

4)8,8-9,9

45 «Сoffee ground» vomit is characteristic of:

1)chronic gastritis

2)chronic pancreatitis

3)low type of gastric hemorrhage

4)intestinal disorders

5)chronic esophagitis

46 Trombocythemia is characterized by:

1)platelets elevation

2)low platelets

3)neutrophilia

4)monocytosis

47 Choose the normal results of Zimnitsky test:

1)DD>ND; relative density variation – 17

2)DD <ND; relative density variation – 4

3)DD <ND; relative density variation -2

4)DD <ND; relative density variation – 9

5)DD <ND; relative density variation – 18

48How many complexes must be recorded in every lead for ECG analyze without rhythm disturbances:

1)3-5 complexes

2)8-9 complexes

3)more than 10 complexes

49 Pathognomonic heart rate for sinus tachycardia:

1)60-80

2)95 – 120

3)more than 120

50The main ECG sign of A-V grade II block, characteristic for Mobitz I and II:

1)consistently long PQ

2)narrow QRS

3)correct ventricular rhythm

4)the presence of pauses with P wave and without QRS complex

51For ECG diagnosis of right atrial hypertrophy, the most important sign is:

1)increase in the amplitude of the p-wave

2)p-wave extension

3)changing the morphology of the p wave

52 Characteristic signs of myocardial infarction acuity on ECG is::

1)ST- elevation

2)presence of Q wave

3)reciprocal leads of the opposite wall

4)changing the morphology of the T-wave

5) all of the above

53The breath-holding test is made:

1)to diagnose extrasystole

2)to detect the blockage of the legs of the His bundle

3)for the diagnosis of sinus arrhythmia

4)to diagnose positional changes in the heart

54 At the normal position of the electrical axis of the heart, how do the R waves correspond in standard leads:

1)RI >RII > RIII

2)RI > RII > RIII

3)RIII > RII > RI

4)all of the above

55 The main frequency of ectopic rhythm in atrial fibrillation:

1)170-200

2)220-350

3)350 – 700

56The most significant leads in hypertrophy of left atrium:

1)I, II

2)aVL, aVF

3)V5 – V6

4) II, V1

57 The manifestation of ischemia on the ECG is:

1)negative T wave

2)ST elevation

3)deep and wide Q

58 The expiratory character of dyspnea is noted with:

1)lung abscess

2)bronchial asthma

3)lobar pneumonia

4)pulmonary edema

59 The most informative method of diagnostics of pneumonia:

А)sputum analysis

1)blood test

2)chest x-ray

3)pleural puncture

60 For a complete blockage of the Left bundle of His, it is typical:

1)QRS ˃ 0.12˝

2)QRS ˂ 0.12˝

3)presence of concordance

**2 variant**

61 List typical complaints of respiratory diseases:

1)cough, drowsiness, diarrhea

2)shortness of breath, palpitations, blood pressure

3)cough, fever, shortness of breath

4)shortness of breath, edema, irritability

62 Symptom, not characteristic for gastric bleeding:

1)vomiting with admixture of blood

2)black tarry stools

3)cyanosis

4)pale skin

63 The patient has frequent urination with the release a small amount of urine each time. What is the name of symptom:

1)oliguria

2)dysuria

3)nocturia

4)ischuria

5)pollakiuria

64 urine output of 300 ml per day is called:

1)nocturia

2)anuria

3)polyuria

4)oliguria

5)рollakiuria

65 The patient asks for help, complains of sharp pain in the right hypochondrium, radiating to the right forearm, repeated vomiting, chills, fever to 40° c, extremely restless, unable to find the place. His tongue is dry and coated. Determine the patient's condition:

1)satisfactory condition

2)moderate severity

3)grave condition

4)terminal

66 "Medusa head" is:

1)dilatation of the anterior abdominal wall veins

the veins of the posterior abdominal wall

2)varicose veins of lower extremities

3)dilatation of the upper extremities veins

67 Acrocyanosis is typical for:

1)liver failure

2)renal failure

3)heart failure

68 So called "frog" belly is characteristic of:

1)ascites

2)obesity

3)pregnancy

4)flatulence

69 Male, 63 years old, height 165 cm, weight 93 kg, stocky, dense. The belly is of considerable size, and the limbs are short. Determine the constitutional type of patient:

1)normosthenic

2)hypersthenic

3)hyposthenic

70 Orthopnoe relieves patient condition due to:

1)bronchi dilation

2)blood deposition in the abdominal organs and low extremities

3)improvement of cerebral blood supply

4)blood pressure level changes

5)decrease of capillary permeability

71The norms and principles of medical ethics and deontology relate to the following relationships:

1)doctor-patient relationship

2)relationship between the doctor and the patient's relatives

3)relationships in the medical team

4)relationship between medical professionals and society

5)all of these

72 Which of the following doctor-patient relationship models is the most rational from the point of view of patients ' interests:

1)"engineering and technical model" - doctor as a specialist

2)"paternalistic model" - doctor as " spiritual father"

3)"cooperative model" - doctor-patient collaboration

4)"contract model" - the doctor as a "supplier", and the patient as a " consumer of medical services"

73 Intervention in the sphere of human health can be carried out:

1)based on the patient's free, informed and informed consent

2)based on medical evidence

3)based on the rarity of the disease picture and its cognitive value

4)based on a request from relatives

5)based on financial gain

74 Which order of the following is the order of ethical relationships in all parts of the hospital's medical structure:

1)nurse aide -ward nurse – head nurse - medical residents/doctors - head of departments

2)nurse aide – ward sister – clinical nurse manager – head nurse – interns/doctors, head of offices

3)nurse aide – ward sister – head nurse – interns /doctors, head of offices

4)ward nurse - clinical nurse manager – senior nurse – interns/doctors, head of offices

75 Normal apical impulse (apex beat) is located:

1)in VI intercostal space at 1.5 cm medially from the left mid-clavicular line

2)in the V intercostal space at 1.5 cm medially from the left mid-clavicular line

3)in the V intercostal space along the left mid-clavicular line

4)in the IV intercostal space at 1.5 cm medially from the left mid-clavicular line.

76 The symptom of "systolic" "cat's purr" is characteristic for:

1)aortic stenosis

2)mitral stenosis

3)mitral insufficiency

77 White line hernia of the abdomen in palpation is determined by:

1)light touch palpation

2)deep palpation

3)balloting palpation

78 Displacement of apical impulse to the left is observed at:

1)hypertrophy of the left ventricle

2)hypertrophy of the right ventricle

3)hypertrophy of the left atrium

79 Tactile fremitus decreases down to absence in:

1)bronchitis

2)exudative pleuritis (above liquid projection area)

3)crupous pneumonia

4)lung abscess after burst

5)focal pneumonia

80 Comparative percussion of the lungs is performed to determine:

1)borders of lungs

2)the presence of the pathological focus

3)the mobility of the lower pulmonary region

81 What part of the heart is the absolute cardiac dullness formed by:

1)left ventricle

2)left atrium

3)right ventricle

4)the right auricle

82 What percussion phenomena is characteristic for the 2nd stage of lobar pneumonia:

1)clear pulmonary sound

2)tympanic sound

3)dull sound

83 Border of absolute cardiac dullness is increased when:

1)hypertrophy of the right ventricle

2)hypertrophy of the left ventricle

3)hypertrophy of right atrium

84 The method of auscultation was first offered by:

1)auenbrugger

2)laennec

3)corvisart

4)botkin

85 Why amount of bass wheezes is decreased after the expectoration:

1)decreases bronchospasm

2)reduces edema of the bronchial mucosa

3)coughing up sticky mucus

86 What type of breathing is determined when pulmonary consolidation:

1)weakened vesicular

2)bronchial

3)harsh

4)bronсho-vesicular

87 Amplification of I heart sound on the apex of the heart (flapping I sound) occurs when:

1)insufficiency of mitral valve

2)insufficiency of aortic valve

3)mitral stenosis

4)aortic stenosis

88 Gallop rhythm occurs:

1)severe heart damage

2)mitral valve prolapse

3)arterial hypertension

89 Duroziez’s sign is seen in:

1)aortic regurgitation

2)aortic stenosis

3)mitral stenosis

4)mitral regurgitation

90 Which statement regarding heart auscultation is incorrect:

1)the sequence of listening to heart valves is determined by the frequency of valve damage

2)normally in all auscultative points i and ii heart tones are heard

3)after the i tone, there is a long pause

4)the sonority of the second tone is estimated based on the heart

91 Listening point for the tricuspid valve:

1)II intercostal space on the right

2)II intercostal space on the left

3)at the base of the xiphoid process

4)apex of the heart

92 «Quail rhythm» appears due to:

1)S1 doubling

2)S2 doubling

3)S3 enhancing

4)mitral valve opening snap appearance

5)S4 enhancing

93 S2 (second heart sound) accentuation at the aorta appears in:

1)hypertensive disease

2)myocardial infarction

3)myocarditis

4)pericarditis

5)endocarditis

94 The R-R interval of the electrocardiogram corresponds to the time of:

1)systole of the atria

2)systole of the ventricles

3)the diastole of the heart

4)one complete cardiac cycle

95 Nechiporenko test determines:

1)excretory kidney function

2)urinary function

3)filtering function

4)concentration function

96 Concentration function of kidneys is defined by the test:

1)Zimnitsky test

2)Addis—Chukovsky

3)Nechiporenko

97 Layer by layer X-ray examination of the lungs:

1)bronchography

2)spirography

3)tomography

4)fluorography

98 Relative urine density in the general analysis is:

1)1018-1025

2)1007-1010

3)1012-1015

4)1030-1040

99 The normal number of red blood cells in men (in 1 l):

1)4,5-5, 0x1012

2)4.5-5, 0x109

3)6-8x1012

4)6-8x109

100 The appearance of glucose in the urine is called:

1)hyperglucosuria

2)glucosuria

3)hyperglycemia

4)hyperproteinemia

101 P wave on ECG is due to:

1)ventricular depolarization

2)atrial repolarization

3)ventricular repolarization

4)atrial depolarization

102 Latent edema can be identified by:

1)Addis-Kakovsky test

2)Nechiporenko test

3)weighing the patient, measuring the amount of drunk and excreted liquid, and analyzing urine according to Zimnitsky test

4)cystoscopy and pyelography

5)weighing the patient, measuring the amount of consumed and excreted liquid, McClure—Aldrich blister test

103 The functional capacity of the kidneys is identified by:

1General urine analysis

2)Nechyporenko test

3)Zimnitsky's test

4)Addis-Kakovsky test

104 The normal value of erythrocyte sedimentation rate (ESR) in men (mm / h):

1)1-2

2)2-10

3)20-40

4)40-50

105 Jaundice is caused by increase of blood level of:

1)reduced hemoglobin

2)oxygenated hemoglobin

3)urea

4)glucose

5)bilirubin

1066 Where the points of electrodes attachment are situated on i standard lead recording:

1)right arm – left arm

2)right arm – left leg

3)left arm – left leg

4)right arm – right leg

5)right leg – left leg

107 Mean pulmonary artery pressure is:

1)15 mm/Hg

2)25 mm/Hg

3)8 mm/Hg

4)10 mm/Hg

108 Q-wave appearance on ECG in myocardial infarction reflects:

1)subendocardial ischemia

2)myocardial necrosis

3)myocardial injury

4)subepicardial ischemia

5)intramural ischemia

109 Normal amplitude of the P wave in the II lead:

1)0.5-1 mm

2)0.5-2.5 mm

3)more than 3.0 mm

110 The most important feature of classical extrasystole:

1)suddenness

2) the prematurity

3)periodicity

111 ECG signs that characterize A-V block III degree:

1)pauses in the rhythm

2)unstable rhythm for the ventricles

3)no relationship between P and QRS

112The most modern ECG test of left ventricular hypertrophy:

1)Sokolov-Lyone

2)Rohmild-Aesthete

3)Cornell

113 Before ventricular extrasystole on ECG P wave is:

1)present

2)absent

114 The most convenient ECG registration:

1)25 mm / s

2)50 mm / s

3)100 mm / s

115 Acceptable RR (PP) fluctuations in sinus arrhythmia:

1)less than 0.05

2)more than 0.20

3)0.05 – 0.15

116 Clinically, distal complete III grade A-V block appears as:

1)an attack of loss of consciousness

2)convulsions attack

3)Morgagni-Adams-Stokes attack

117 The most common ECG type of right ventricular hypertrophy:

1)R-type

2)M-type

3)S-type

118 The high «Gothic» P wave indicates:

1) right atrial hypertrophy

2)left atrial hypertrophy

119When expiratory dyspnea is difficult:

1)inhale

2)exhale

3)inhale and exhale

120 Complication of focal pneumonia:

1)lung abscess

2)bronchitis

3)tuberculosis

4)lung cancer

**3 variant**

121 When asking a patient with complaints of heart pain, it is necessary to find out:

1)connection of pain with physical activity, stress

2)pain localization

3)the nature of pain

4)circumstances that contribute to the disappearance of pain

5)all correct

122 Resistant skin itching characteristic for:

1)heart disease

2)disease of the lungs

3)liver disease

4)blood disease

123 Frequent painful urination is:

1)anuria

2)dysuria

3)oliguria

4)polyuria

124 Petechial rash appear when the violation:

1)red blood cells

2)leukocytes

3)eosinophils

4)platelets

125 The patient is inhibited, the comprehension of the questions is difficult (answers belatedly, after repeated repetition of the questions), indifferent to everything, refusing to take food. Determine the patient's condition:

1)stupor (stupefaction,a state of stun)

2)spoor

3)coma

4)syncope

5)delirious

126 Pathological shape of the chest:

1)asthenic

2)barrel

3)hypersthenic

4)normosthenic

127 Diffuse cyanosis characteristic of:

1)liver failure

2)renal failure

3)heart failure

4)respiratory failure

128 In case of anemia skin is:

1)pale

2)hyperemic

3)cyanotic

4)icteric

129 General inspection is referred to:

1)laboratory diagnostic methods

2)subjective diagnostic methods

3)physical diagnostic methods

4)instrumental diagnostic methods

130 Orthopnoe forced position relieves condition of patients with:

1)renal failure

2)hepatic insufficiency

3)adrenal insufficiency

4)cerebral circulatory insufficiency

5)heart failure

131 Medical confidentiality is required for:

1)protection of the inner world of a person, his autonomy

2)protection of social and economic interests of the individual

3)creating a basis for trust and frankness in the doctor-patient relationship

4)maintaining the prestige of the medical profession

5)all of the above

132What is the subject of medical secrecy:

1)information about the patient's condition during their illness

2)information about the fact of seeking medical care

the patient's health status, diagnosis of his disease, and other information obtained during his 3)examination and treatment

4)all of the above

133 Patient M, 54 years old, is being treated in a hospital for a tumor in the lung. The nurse who performed the doctor's appointments, during the next manipulation, told the patient that his condition is hopeless and treatment will not bring any results, perhaps he will develop lung cancer. What, according to the principles of medical ethics, a nurse could say:

1)when communicating with a patient, the nurse has the right to inform him about his diagnosis, inform him about the outcomes of the disease and the effectiveness of the treatment

2)the nurse does not have the right to tell the patient about his diagnosis, but can inform about the diagnosis, treatment and prognosis of his relatives and friends:

3)he nurse did not have the right to transmit all the information that specialists possess

4)"I would love to discuss this topic with you, I understand that it is important for you to know all this, but unfortunately, I do not have the full information, so I recommend that you talk about it with your doctor»

134 What links does the diagnostic and treatment process include:

1)conversation with the patient, diagnosis

2)conversation with the patient, diagnosis, treatment appointments

3)conversation with the patient, diagnosis, treatment appointments, discharge

4)conversation with the patient, appointment of treatment, discharge

135 The area of the apical impulse (apex beat) normally is:

1)0,5 sm

2)4 sm

3)2 sm

4)6 sm

136 Deficiency of pulse during palpation is determined when:

1)atrial fibrillation

2)sinus tachycardia

3)sinus bradycardia

137 The exception of the stages of deep palpation is:

1)a set of the hands

2)skin fold

3)immersion on the inhalation

4)immersion on the exhalation

5)slide

138 Which of the following is a cause of wide pulse pressure:

1)aortic stenosis

2)aortic regurgitation

3)mitral stenosis

4)tricuspid stenosis

139The "diastolic" tremor symptom is typical for:

1)aortic stenosis

2)mitral stenosis

3)mitral insufficiency

140 What percussion sound is over healthy lungs:

1)tympanic

2)resonant (clear pulmonary)

3)slightly dull (intermediate)

4)dull

141 Heart breadth (transverse size) is equal to:

1)2-4 cm

2)6-7 cm

3)11-13 cm

4)1 cm

142 The width and length of spleen in norm are respectively:

1)4-6 and 6-8 cm

2)3-4 and 5-7 cm

3)5-7 and 9-10 cm

143 The left contour of the dullness of the heart is formed by:

1)left aortic arch, pulmonary trunk, left atrium and left ventricle

2)left aortic arch, left atrium and left ventricle

3)left aortic arch and left ventricle

4)left ventricle

144 Bronchial breathing is auscultated:

1)on the inhale

2)on the exhale

3)on inhale and exhale

4)on the inhale and the first third of the exhalation.

145 Bronchial breathing- "amphoric type " is auscultated when:

1)cavities in the lung communicating with the bronchus

2)emphysema

3)obstructive atelectasis

4)hydrothorax

146 Vesicular breathing is auscultated:

1)on the inhale

2)on exhalation

3)on the inhale and the exhale

4)on the inhale and the first third of the exhalation

147 Dry rales are formed when:

1)breaking up of the walls of the alveoli

2)swelling of the bronchial mucosa and its spasm

3)the presence of liquid sputum in the lumen of the bronchi

4)infiltration of lung tissue

148 A patient with cardiac asthma, on the basis of the heart is auscultated:

1)accent ii tone on the aorta

2)accent ii tone on the pulmonary trunk

3)the weakening of the ii tone on the aorta

4)the weakening of the II tone on the pulmonary trunk.

149 Diastolic noise over the heart apex is typical for:

1)mitral valve insufficiency

2)aortic valve insufficiency

3)mitral stenosis

4)aortic stenosis

150 Weakening of the II tone in the II intercostal space on the right at the edge of the sternum occurs in all the listed conditions, except:

1)aortic stenosis

2)arterial hypertension

3)aortic valve insufficiency

4)hypotension

151 Gallop rhythm is present in:

1)severe heart failure

2)mitral valve prolapse

3)arterial hypertension

152 Pathologic bronchial breath sound – compressive variant – is heard in:

1)pulmonary consolidation syndrome

2)pleural effusion syndrome

3)pulmonary cavity syndrome

4)bronchial obstruction syndrome

5)hyperinflated lung syndrome

153 Fine crackles (small-bubbling rales) are heard in:

1)asthma

2)chronic bronchitis

3)emphysema

4)pneumonia

5)pluritis.

154 The norm of bilirubin (in mmol/l) in blood serum is:

1)8,5-30,5

2)3,3-5,5

3)8,5-20,5

4)0-18

155 The urinary protein excretion is called:

1)glucosuria

2)urobilinuria

3)proteinuria

4)hematuria

156 Roentgenologic (radiological) examination of the kidneys is called:

1)cholecystography

2)pyelography

3)cholangiography

4)irrigoscopy

5)fluorography

157 Condition of the heart valves detected better by:

1)laboratory diagnostics

2)X-ray examination

3)ultrasound

4)electrocardiography

158Number of red blood cells in the total urine analysis (in the field of view):

1)0

2)3

3)6

4)9

159 The color index reflects:

1)amount of hemoglobin

2)number of red blood cells

3)degree of saturation of red blood cells with hemoglobin

4)degree of saturation of white blood cells with hemoglobin

160 X-ray examination of the kidneys is called:

1)cholecystography

2)pielografia

3)cholangiography

4)irrigoscopy

161 Concentration function of the kidneys is determined by:

1)Zimnitsky test

2)Addis-Kakovsky test

3)Nechyporenko test

4)daily proteinuria

162 Registration of the sound phenomena in working:

1)bicycle ergometry

2)phonocardiography

3)electrocardiography

4)echocardiography

163 Daily diuresis is 3 l-this is:

1)anuria

2)nocturia

3)oliguria

4)polyuria

164 Normal platelet count (in 1 l):

1)60-80 x 109

2)60-80 x 1012

3)180-320 x 109

4)180-320 x 1012

165 From what BP level (nowadays) hypertension is detected:

1)140 / 90 mm Hg

2)130 / 85 mm Hg

3)120 / 80 mm Hg

4)160 / 95 mm Hg

5)110 / 75 mm Hg

166 Internal jugular vein pressure determines pressure of:

1)RA

2)LA

3)RV

4)LV

167 The upper level of leukocytes normal amount according to Nechiporenko test is:

1)15000 in 1 ml of urine

2)20000 in 1 ml of urine

3)4000 in 1 ml of urine

4)8000 in 1 ml of urine

5)10000 in 1 ml of urine

168 The most important function of the heart for ECG recording is:

1)tonicity

2)contractility

3)excitability

169 normal ECG consists of:

1)waves

2)potentials

3)segments

4)all of the above

170 Heart rate in paroxysmal tachycardia:

1)more than 100

2)120 – 140

3)140 – 250

171 Sinoauricular block of the second degree on the ECG is characterized by:

1)the regular rhythm

2)pauses with P-waves

3)the presence of pauses without P waves and QRS

172 The most prognostically unfavorable ECG type of right ventricular hypertrophy:

1)R-type

2)M-type

3)S-type

1733For A-V first grade block, the PQ interval is:

1)duration less then 0.2

2)duration of more than 0.2

174 The PQ interval depends on:

1)gender

2)age

3)heart rate

175 The main sign of ventricular extrasystole:

1)wide, deformed QRS

2)no R wave

3)presence of a post-extrasystolic pause

176 Sino-auricular blockade of I degree:

1)has ECG criteria

2)does not have ECG criteria

177 For all electrolyte abnormalities, the ECG changes are:

1)QRS width

2)QT changes

3)PQ changes

4)T changes

178 Name Sokolov-Lyone criterion:

1)RV3 + SaVL

2)RV5 + SV1

3)R1 + SIII

179 The forced position of the patient with an attack of bronchial asthma:

1)horizontal

2)horizontal with raised legs

3)lying on its side

4)sitting, leaning on your knees

180 Sputum for bacteriological research is collected in:

1)dry test tube

2)dry jar

3)sterile tube

4)sterile jar

**4 variant**

181 Expiratory dyspnea is:

1)it is difficult to inhale

2)it is difficult to exhale

3)it is difficult to inhale and exhale

4)hard to breathe in lying position

182 Night diuresis prevails over the day diuresis. What is the name of symptom:

1)nocturia

2)pollakiuria

3)oliguria

4)ischuria

183 Edema in diseases of the heart:

1)appear in the morning hours

2)are localized on the face

3)shift when there is change in body position

4)localized on the feet, thighs

184The characteristic complaint of patients with diabetes mellitus is:

1)shortness of breath

2)thirst

3)brittle nails

4)irritability

5)"tearfulness"

185 Male, 63 years old, height 165 cm, weight 93 kg, [thickset](http://www.multitran.ru/c/m.exe?t=754617_1_2&s1=%EA%EE%F0%E5%ED%E0%F1%F2%FB%E9), belly of considerable size, the limbs are short. Determine the constitutional type of the patient:

1)normosthenic

2)hypersthenic

3)hyposthenic

186Rare deep noisy breath is the breath of:

1)biot

2)grock

3)kussmaul

4)cheyne—stokes

187 Edema of renal origin first appear:

1)on the legs

2)on the lower back

3)on the hands

4)on the face

188 Central cyanosis is characterized by:

1)diffuse character, greyish tint, ―warm cyanosis

2)distal location, ―cold cyanosis

3)istal location, icteric tint, ―warm cyanosis

4)diffuse character, greyish tint, ―cold cyanosis

189 Musset's sign is:

1)jugular veins collapse during atrial diastole

2)carotid dance

3)diffuse apical impulse

4)rhythmical, synchronous with carotid pulse head jiggles

rhythmical, synchronous with heart beats head jiggles from the right to the left

190 What does ― «facies mitrale» mean:

1)erythematous exanthema on cheeks and dorsum of nose

2)facial pallor

3)cyanotic malar flush

4)hyperemia of the left cheek

5)puffiness of face

191 The doctor can inform the patient's relatives about the patient's health status only in this case:

1)incurable diseases

2)mental disorders

3)with the patient's consent

4)need for surgical intervention

5)in case of an infectious disease of the patient

192 In what document are the main postulates of medical ethics formulated:

international code of medical ethics

1)Geneva Declaration

2)Lisbon Declaration

3)in all of the above

4)Helsinki Declaration

193 The woman has a temperature of 39.7, called an ambulance. At her request to come, she was advised to take pills. The woman said that she is a disabled person of group 2, suffers from epilepsy and her condition is gradually getting worse, the dispatcher was rude to the woman, asked not to bother them for nothing and hung up. No one answered the second call. Choose the right dispatcher tactics:

1)the dispatcher recommended that the woman call a district therapist

2)the emergency medical dispatcher must act according to Protocol, hanging up the phone and not answering calls is a gross violation of professional duties

3)the dispatcher recommended self-treatment

4)the dispatcher is right, since the patient does not have indications for hospitalization, and calling an ambulance will be unreasonable

194 The weakening of the voical (tactile) fremitus is defined at:

1)emphysema

2)bronchitis

3)pneumonia

4)syndrome of compressive atelectasis

195 In what stage of lobar pneumonia the voical fremitus is enhanced:

1)the stage of the resolution

2)the stage of compaction

3)the stage of the onset

196 In palpation "noise of splash" is typical for the following pathology:

1)stenosis of the pylorus

2)erosive gastritis

3)peptic ulcer of the duodenum

197 The cecum is palpated:

1)in the right iliac region

2)in the left iliac region

3)in the suprapubic region

4)at the level of the navel on both sides of the median line

198 Tactile fremitus increases in:

1)pneumothorax

2)chronic bronchitis

3)emphysema

4)crupous pneumonia

5)asthma

199 When percussion of the lower parts of the chest of a patient with emphysema percussion sound is:

1)intermediate (slightly dull)

2)dull

3)hyperresonant («boxed»)

4)tympanic

200 What percussion sound is over the heart area:

1)clear pulmonary

2)slightly dull, dull

3)boxed

4)tympanic

201 Where is the right border of relative cardiac dullness in the IV intercostal space:

1)at the edge of the sternum

2)4 cm outwards from the edge of the sternum

3)about 1-2 cm outwards from the edge of the sternum

4)on the left edge of the sternum.

202The smooth "waist" of the heart happens when:

1)mitral stenosis

2)aortic stenosis

3)aortic insufficiency

203 The left border of the heart is formed:

1)the tip of the right ventricle

2)the tip of the left ventricle

3)left atrium

4)left atrium and ventricle

204 When emphysema breathing is:

1)vesicular

2)bronchial

3)harsh respiration

4)weakened vesicular

205 Systolic murmur over the apex of the heart is characteristic of:

1)insufficiency of mitral valve

2)insufficiency of aortic valve

3)mitral stenosis

4)aortic stenosis.

206 Crepitation is auscultated:

1)only on the inhale

2)only on the exhalation

3)on the inhale and the exhale

207 For what purpose is an additional technique used for auscultation of the lungs – pressing the stethoscope on the chest:

1)in order to distinguish the noise of pleural friction from crepitation and wheezing

2)to detect hidden bronchial obstruction

3)in order to distinguish dry wheezes from wet ones

4)to distinguish wheezing from crepitation or pleural friction noise

5)for better listening to pathological bronchial breathing

208 In what valvular defect is there "rhythm of quail"(fout-ta-ta-rou):

1)mitral regurgitation

2)mitral stenosis

3)aortic insufficiency

209 Amplification of the I tone at the top of the heart (clapping) occurs when:

1)mitral valve insufficiency

2)aortic valve insufficiency

3)mitral stenosis

4)aortic stenosis

210 Second tone auscultation point:

1)apex of the heart

2)second intercostal space on the right

3)at the base of the xiphoid process

4)Botkin-Erb point

211 In which heart disease the "quail rhythm" is heard:

1)mitral insufficiency

2)mitral stenosis

3)aortic insufficiency

212 Coarse crackles (large-bubbling rales) are originated in:

1)alveoli

2)pleura

3)pericardium

4)bronchi

5)intestine

213 Pathologic bronchial breath sound – infiltrative variant – is heard in:

bronchitis in exacerbation period

1)dry pleuritis

2)crupous pneumonia in hepatization stage

3)exudative pleuritis (below liquid level)

4)emphysema

214 Normally, an average of urine is released per day:

1)1000 ml

2)700 ml

3)1500 ml

4)3000 ml

5)5000 ml

215 The specific gravity of urine in a healthy person is within:

1)1007-1014

2)1020-1025

3)1015-1020

4)1005-1025

5)1020-1030

216 The patient excreted urine with color of "meat slops". What is the symptom:

1)microhematuria

2)leukocyturia

3)bacteriuria

4)proteinuria

5)macrohematuria

217 Normal correlation of day and night diuresis is:

1)3: 1

2)2: 1

3)1:1

4)1: 2

218 In syndrome of renal failure in the blood there is:

1)increased creatinine and urea

2)increased creatinine

3)urea increase

4)reduction of creatinine and urea

219 Normal number of white blood cells (in 1 l):

1)4-9x109

2)4-9x1012

3)1-2x1012

4)9-12x109

220 Instrumental methods of investigation used in cardiology:

1)echocardiography

2)bicycle ergometry

3)radiography of the chest cavity

4)all answers are correct

221 The state of the ventricles is characterized by:

1)P wave

2)PQ interval

3)QRS complex

4)RR interval

222 Acid-forming function of the stomach is investigated by:

1)duodenal probing

2)fractional gastric probing

3)endoscopic examination

4)x-ray examination

223 Daily diuresis is 40 ml — this is:

1)anuria

2)nocturia

3)oliguria

4)polyuria

224 To confirm pituitary pathology, you should perform:

1)anthropometry

2)General blood test

3)General urine analysis

4)radiography of the skull bones

225 Rusty sputum is characteristic of:

1)еxudative pleuritis

2)bronchitis

3)crupous pneumonia

4)lung abscess

5)asthma

226 Incorrect information about conduction system of heart:

1)SAN is dominant pacemaker

2)AVN exhibits conduction delay of 0,1 sec

3)Purkinje fibers have the slowest conduction

4)Left fascicle divides into anterior and posterior fascicle

227 Curshmann spirals in sputum are detected in:

1)lung abscess

2)crupous pneumonia

3)chronic bronchitis

4)asthma

5)bronchiectasis

228 Number of leads required for ECG analysis:

1)3

2)6

3)12

229 The heart rate should be calculated by the interval:

1)QT

2)TP

3)RR

230 Main signs of atrial fibrillation:

1)no R wave

2)presence of f waves

3)presence of F waves

4)narrow QRS

231 ECG signs of complete Left bundle of His blockage are registered in leads:

1)II, III, aVF

2)I, aVL

3)V1 – V2

232 In coronary pathology ECG is necessary to determine:

1)process topics

2)depth

3)CHD forms

4)all of the above

233 The I-order pacemaker in the conducting system of the heart is:

1)sinus node

2)atrioventricular node

3)bundle of His

4)Purkinje fibers

234 The Q wave of the ventricular complex corresponds to:

1)apex excitability

2)septal excitability

3)the excitation of the lateral wall

235 Atrial paroxysmal tachycardia is characterized by:

1)heart rate above 150

2)the presence of the p wave before the QRS

3)narrow QRS

4)ST on the isoline

5)all of the above

236 Is it possible to distinguish between signs of hypertrophy and dilatation by ECG:

1)yes

2)no

237 The manifestation of necrosis on the ECG is:

1)negative T wave

2)ST elevation

3)the presence of Q (QS) pathology

238 The main complaint of the patient with bronchial asthma:

1)chest pain

2)purulent sputum cough

3)asthma attack

4)hemoptysis

239 Auscultatory data for an attack of bronchial asthma:

1)crepitus

2)dry wheezing

3)wet wheezing

4)pleural friction noise

240 Complication of croupous pneumonia:

1)bronchial asthma

2)bronchitis

3)pleuritis

4)lung cancer

**Variant 5**

241The main complaint of the patient with bronchial asthma:

1)chest pain

2)purulent sputum cough

3)asthma attack

4)hemoptysis

242 Sputum for bacteriological research is collected in:

1)dry test tube

2)dry jar

3)sterile tube

4)sterile jar

243 Kurshman spirals and Charcot-Leiden crystals in sputum are determined with:

1)lung abscess

2)bronchial asthma

3)lung cancer

4)tuberculosis

244The most informative method for diagnostic of bronchoectatic disease:

1)bronchography

2)chest x-ray

3)spirography

4)fluorography

245 Fingers in the form of "drumsticks" and nails in the form of "watch glasses" are found with:

1)acute bronchitis

2)focal pneumonia

3)lobar pneumonia

4)bronchoectatic disease

246 Place of puncture with pleural puncture:

1)along the upper edge of the rib

2)along the bottom edge of the rib

3)irrelevant

247 Dullness of percussion sound and weakening of voice trembling occurs when:

1)bronchitis

2)pneumonia

3)dry pleuritis

4)exudative pleuritis

248 A decrease in the active mobility of the lower pulmonary region is observed for everything except:

1)emphysema

2)acute bronchitis

3)exudative pleuritis

4)fusion and obliteration of pleural leaflets

249 With exudative pericarditis, the patient is in a forced position:

1)horizontal

2)horizontal with raised legs

3)lying on its side

4)sitting with torso forward

250 Clinical symptoms of cardiogenic shock:

1)fever, lymphadenopathy

2)fever, cough with rusty sputum

3)a sharp decrease in blood pressure, a frequent filiform pulse

4)sharp increase in blood pressure, intense pulse

251 Complication of atherosclerosis:

1)ascites

2)myocardial infarction

3)pyelonephritis

4)pneumonia

252 Reinforced and diffuse cardiac impulse and epigastric pulsation are observed with:

1)left ventricular hypertrophy

2)left atrial hypertrophy

3)hypertrophy and dilatation of the right ventricle

253 Severe hemodynamic disturbances with the development of irreversible congestion in organs and general dystrophy, sometimes exhaustion, complete disability corresponds to the following stage of heart failure:

1)I

2)II

3)III

254 Of greatest importance in the pathogenesis of cardiac edema is:

1)increase in hydrostatic pressure in the venous channel of a large circle of blood circulation

2)decrease in plasma oncotic pressure

3)sodium and water retention due to activation of the renin-angiotensin-aldosterone system

4)vascular permeability increase

255 The most informative method of instrumental diagnosis of cardiac failure is:

1)EchoCG

2)ECG

3)FCG

4)radiography of the heart

256 Overload of the left ventricle develops with:

1)pulmonary hypertension

2)tricuspid valve insufficiency

3)mitral insufficiency

257 Indicate the most probable pathogenetic cause of short-term pain, localized behind the sternum, radiating to the left and up (the left shoulder, arm, shoulder blade, sometimes in the left half of the lower jaw, the left hypochondrium and in the epigastric region), which is often more oppressive, and quickly stops with nitroglycerin:

1)coronary insufficiency

2)pericarditis

3)acute myocarditis

4)aortic lesion

258 Rheumatism develops after a sore throat through:

1)1-2 days

2)3-4 days

3)1-3 weeks

4)1-3 months

259 Auscultation data for mitral regurgitation:

1)diastolic murmur at the apex

2)systolic murmur at the apex

3)diastolic murmur in the 2nd intercostal space on the right at the sternum

4)systolic murmur in the 2nd intercostal space on the right at the sternum

260 Hemoptysis is a common symptom:

1)aortic insufficiency

2)myocardial infarction

3)angina pectoris

4)mitral stenosis

261 What is the "quail rhythm":

1)bifurcation 1 tone

2)bifurcation 2 tone (click mitral valve opening)

3)changes in heart sounds and systolic-diastolic murmur

262 In the region of the apical impulse sound phenomena from the valve are heard:

1)aortic

2)mitral

3)pulmonary

4)tricuspid

263 The condition of the valvular apparatus of the heart better reflects:

1)laboratory diagnostics

2)x-ray examination

3)ultrasound

4)electrocardiography

264 Progressive weight loss is observed with:

1)stomach cancer

2)chronic gastritis

3)chronic cholecystitis

4)peptic ulcer

265 To stimulate gastric secretion, use:

1)pentagastrin

2)vegetable oil

3)barium sulfate

4)magnesium sulfate

266 Exacerbation of chronic pancreatitis provokes:

1)ARVI, hypothermia

2)intake of fatty foods, alcohol

3)protein intake, smoking

4)overwork, stress

267 Alcoholism leads to the development of cirrhosis of the liver:

1)biliary

2)gantry

3)post-necrotic

268 Preparation of the patient for abdominal puncture:

1)empty the bladder

2)rinse the stomach

3)put a cleansing enema

4)put a siphon enema

269 With hepatitis jaundice develops:

1)hemolytic

2)mechanical

3)parenchymal

270 The main reason for post-necrotic cirrhosis of the liver:

1)alcoholism

2)chronic viral hepatitis

3)chronic cholecystitis

4)chronic pancreatitis

271 Evidence of anemia is:

1)gray skin tone

2)icteric skin tone

3)pallor of mucous membranes

272 Indicate the normal red blood cell count in healthy peripheral blood.men:

1)4.0-5.0x1012/l

2)3.9-4.7x1012/l

3)3.0-4.0x1012/L

4)5.0-6.0x1012/l

273 Weakness, fainting, perversion of taste and smell are observed when anemia:

1)B12-deficient

2)hypoplastic

3)hemolytic

4)iron deficiency

274With hemophilia A, there is a deficiency of the coagulation factor:

1)VIII

2)IX

3)X

4)XI

275 Jaundice, hepatosplenomegaly, dark urine are observed with anemia:

1)aplastic

2)hemolytic

3)iron deficiency

4)acute posthemorrhagic

276 Hyperleukocytosis up to 200x109/l is observed with:

1)leukemia

2)pyelonephritis

3)pneumonia

4)rheumatism

277 Neutrophilic leukocytosis with a sharp left shift can occur in all diseases, except:

1)helminthic invasion

2)acute gangrenous cholecystitis

3)severe drug dermatitis

4)peritonitis

278 Indicate the most reliable diagnostic sign of acute leukemia:

1)the presence of hemorrhagic, anemic, febrile syndromes

2)detection of Botkin-Gumprecht cells

3)detection of 30 or more blast cells in a myelogram

4)complaints of fatigue, weakness, fever, bleeding gums

279 The most common form of chronic glomerulonephritis:

1)hypertonic

2)latent

3)nephrotic

4)mixed

280 The main cause of acute cystitis:

1)hypovitaminosis

2)infection

3)hypothermia

4)stress

281 With a uremic coma, exhaled breath is observed:

1)ammonia

2)of alcohol

3)acetone

4)rotten eggs

282 To determine the shaped elements carried out:

1)urinalysis

2)test according to Zimnitsky

3)test according to Nechiporenko

4)bacteriological examination of urine

283 The excretion of leukocytes with urine is called:

1)bacteriuria

2)hematuria

3)cylindruria

4)albuminuria

5)leukocyturia

284 Daily diuresis is 40 ml – this is:

1)anuria

2)nocturia

3)oliguria

4)polyuria

285 What non-invasive and informational method can be used to visualize the kidneys:

1)scintiography

2)renal angiography

3)Ultrasound scan

4)isotopic renography

5)intravenous urography

6)scanning

286 What pancreatic cells produce insulin:

1)alpha cells

2)beta cells

3)delta cells

4)acinus cells

287 What is the complication of diabetes characterized by the expansion of the retinal venules, the development of microaneurysms, hemorrhages, exudates in it?

1)arterial hypertension

2)macroangiopathy

3)retinopathy

4)Neuropathy

288 Treatment of ketoacidotic coma should begin with the introduction of:

1)strophanthin

2)isotonic sodium chloride and insulin

3)potassium salts

4)norepinephrine

5)calcium salts

289With a typical diffuse toxic goiter, secretion of thyroid-stimulating hormone:

1)normal

2)reduced

3)promoted

290 For diabetes is typical:

1)thirst

2)polyuria

3)hyperglycemia

4)glucosuria

5)all of the above

291 Under what pathology the skin is smooth, warm, soft to the touch, with hyperhidrosis:

1)hypothyroidism

2)hyperthyroidism

3)pituitary hyperfunction

4)pituitary hypofunction

5)diabetes

292 In the treatment of anaphylactic shock, all drugs are used, except:

1)antihistamines

2)glucocorticosteroid

3)diuretics

4)vasopressors

293 What pathogenesis of diseases is based on anaphylactic reactions?

1)urticaria

2)chronic non-specific lung diseases

3)thymus hyperplasia

4)diabetes

294 Using histamine receptor blockers H1 for allergic rhinitis, remember:

1)best used in the early stages of the disease

2)in the absence of effect, increase the dose and lengthen the course

3)during remission, periodically take these drugs to prevent exacerbations

4)with a prolonged course, it is better to take inside, and not topically

295 The most common complications in the treatment of children with systemic bronchial asthma

glucocorticoids:

1) oppression of the adrenal cortex

2)myopia

3)copper exchange disorder

296 In patients who have undergone anaphylactoid reactions in the past, the administration of antihistamines and glucocorticoids, as well as their combination with adrenostimulants, effectively reduces the frequency and severity of reactions to administration:

1) iodine-containing radiopaque substances

2)lactam antibiotics

3)muscle relaxants

297 Target organs for food allergies are not:

1)gastrointestinal tract

2)leather

3)respiratory system

4) heart

298A characteristic feature of urticaria is:

1)laryngeal edema

2)tachycardia

3) the appearance of a skin rash, accompanied by itching

4)hemorrhagic rash

299 Anaphylactic shock is a manifestation of allergic reactions:

1) immediate type

2)slow type

3)cytotoxic

4)immunocompetent

300 Characteristic signs for sensitization to household allergens are:

1)moderate eosinophilia

2)allergic manifestations usually appear in the spring

3) allergic manifestations may occur with a change of residence

combination with food allergies

STANDARDS OF RESPONSES TO TEST TASKS

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| № | answer | № | answer | № | answer | № | answer | № | answer |
| 1 | 1 | 71 | 3 | 141 | 4 | 211 | 2 | 281 | 2 |
| 2 | 1 | 72 | 5 | 142 | 3 | 212 | 5 | 282 | 2 |
| 3 | 4 | 73 | 2 | 143 | 5 | 213 | 3 | 283 | 2 |
| 4 | 1 | 74 | 1 | 144 | 3 | 214 | 3 | 284 | 4 |
| 5 | 4 | 75 | 3 | 145 | 3 | 215 | 3 | 285 | 2 |
| 6 | 3 | 76 | 4 | 146 | 1 | 216 | 4 | 286 | 2 |
| 7 | 2 | 77 | 4 | 147 | 3 | 217 | 2 | 287 | 4 |
| 8 | 4 | 78 | 1 | 148 | 1 | 218 | 2 | 288 | 4 |
| 9 | 3 | 79 | 5 | 149 | 3 | 219 | 4 | 289 | 1 |
| 10 | 4 | 80 | 2 | 150 | 2 | 220 | 3 | 290 | 1 |
| 11 | 1 | 81 | 3 | 151 | 3 | 221 | 4 | 291 | 1 |
| 12 | 2 | 82 | 4 | 152 | 2 | 222 | 2 | 292 | 3 |
| 13 | 1,3 | 83 | 4 | 153 | 4 | 223 | 3 | 293 | 4 |
| 14 | 2 | 84 | 1 | 154 | 1 | 224 | 5 | 294 | 3 |
| 15 | 3 | 85 | 2 | 155 | 3 | 225 | 3 | 295 | 5 |
| 16 | 3 | 86 | 3 | 156 | 3 | 226 | 5 | 296 | 2 |
| 17 | 1 | 87 | 1 | 157 | 2 | 227 | 3 | 297 | 3 |
| 18 | 1 | 88 | 2 | 158 | 2 | 228 | 3 | 298 | 2 |
| 19 | 4 | 89 | 3 | 159 | 2 | 229 | 3 | 299 | 4 |
| 20 | 1 | 90 | 4 | 160 | 2 | 230 | 1 | 300 | 3 |
| 21 | 4 | 91 | 5 | 161 | 4 | 231 | 2 |  |  |
| 22 | 3 | 92 | 1 | 162 | 4 | 232 | 4 |  |  |
| 23 | 1 | 93 | 3 | 163 | 5 | 233 | 3 |  |  |
| 24 | 2 | 94 | 3 | 164 | 4 | 234 | 5 |  |  |
| 25 | 2 | 95 | 4 | 165 | 4 | 235 | 4 |  |  |
| 26 | 5 | 96 | 3 | 166 | 3 | 236 | 4 |  |  |
| 27 | 1 | 97 | 5 | 167 | 3 | 237 | 5 |  |  |
| 28 | 1 | 98 | 2 | 168 | 4 | 238 | 1 |  |  |
| 29 | 4 | 99 | 1 | 169 | 2 | 239 | 5 |  |  |
| 30 | 1 | 100 | 4 | 170 | 5 | 240 | 2 |  |  |
| 31 | 4 | 101 | 2 | 171 | 3 | 241 | 3 |  |  |
| 32 | 5 | 102 | 1 | 172 | 1 | 242 | 2 |  |  |
| 33 | 3 | 103 | 4 | 173 | 3 | 243 | 4 |  |  |
| 34 | 2 | 104 | 3 | 174 | 1 | 244 | 4 |  |  |
| 35 | 4 | 105 | 5 | 175 | 3 | 245 | 2 |  |  |
| 36 | 2 | 106 | 1 | 176 | 4 | 246 | 4 |  |  |
| 37 | 1 | 107 | 2 | 177 | 4 | 247 | 5 |  |  |
| 38 | 1 | 108 | 5 | 178 | 5 | 248 | 1 |  |  |
| 39 | 2 | 109 | 4 | 179 | 2 | 249 | 2 |  |  |
| 40 | 3 | 110 | 4 | 180 | 4 | 250 | 5 |  |  |
| 41 | 4 | 111 | 5 | 181 | 3 | 251 | 1 |  |  |
| 42 | 1 | 112 | 1 | 182 | 2 | 252 | 1 |  |  |
| 43 | 3 | 113 | 1 | 183 | 1 | 253 | 2 |  |  |
| 44 | 2 | 114 | 3 | 184 | 4 | 254 | 4 |  |  |
| 45 | 3 | 115 | 2 | 185 | 5 | 255 | 3 |  |  |
| 46 | 1 | 116 | 4 | 186 | 1 | 256 | 4 |  |  |
| 47 | 1 | 117 | 2 | 187 | 2 | 257 | 1 |  |  |
| 48 | 1 | 118 | 2 | 188 | 4 | 258 | 5 |  |  |
| 49 | 1 | 119 | 2 | 189 | 2 | 259 | 2 |  |  |
| 50 | 1 | 120 | 5 | 190 | 3 | 260 | 2 |  |  |
| 51 | 1 | 121 | 1 | 191 | 4 | 261 | 1 |  |  |
| 52 | 3 | 122 | 3 | 192 | 4 | 262 | 4 |  |  |
| 53 | 1 | 123 | 5 | 193 | 4 | 263 | 4 |  |  |
| 54 | 1 | 124 | 2 | 194 | 5 | 264 | 3 |  |  |
| 55 | 3 | 125 | 3 | 195 | 3 | 265 | 5 |  |  |
| 56 | 4 | 126 | 1 | 196 | 4 | 266 | 4 |  |  |
| 57 | 5 | 127 | 1 | 197 | 4 | 267 | 5 |  |  |
| 58 | 2 | 128 | 2 | 198 | 3 | 268 | 5 |  |  |
| 59 | 1 | 129 | 3 | 199 | 3 | 269 | 3 |  |  |
| 60 | 4 | 130 | 5 | 200 | 4 | 270 | 2 |  |  |
| 61 | 2 | 131 | 4 | 201 | 3 | 271 | 1 |  |  |
| 62 | 5 | 132 | 3 | 202 | 2 | 272 | 1 |  |  |
| 63 | 4 | 133 | 1 | 203 | 3 | 273 | 1 |  |  |
| 64 | 1 | 134 | 2 | 204 | 3 | 274 | 5 |  |  |
| 65 | 1 | 135 | 5 | 205 | 2 | 275 | 3 |  |  |
| 66 | 2 | 136 | 4 | 206 | 1 | 276 | 5 |  |  |
| 67 | 4 | 137 | 3 | 207 | 5 | 277 | 3 |  |  |
| 68 | 3 | 138 | 5 | 208 | 2 | 278 | 1 |  |  |
| 69 | 4 | 139 | 1 | 209 | 3 | 279 | 2 |  |  |
| 70 | 1 | 140 | 1 | 210 | 1 | 280 | 4 |  |  |

**Criteria for evaluating the results of testing at the intermediate certification:**

70% of correct answers – 1 point;

less than 70% of correct answers – 0 points.

**Options for classifying the knowledge and actions of the student on the exam**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **№** | **Options for classifying the knowledge and actions of the student on the exam** | | | | | **Approximate scale of exam points** | |
| **№** | **Test tasks** | **№** | **Theoretical questions** | **№** | **Practical part: the decision of situational tasks** | **A combination of options for classifying knowledge and actions of the student** | **Points** |
| 1 | Correctly answered all the questions (>70%), reflecting the development of the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) in full | 3 | He outlined the content of all the questions of the ticket using information from the main and additional literature, reflecting the development of the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) in full | 8 | The presence of clinical thinking skills and the ability to evaluate situational tasks that fully and correctly reflect the stages of mastering the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) in full | 1+3+8  2+3+8  1+4+8  1+4+9  1+5+8  2+4+8  2+4+9  2+6+9  1+6+10  2+5+10  1+7+9  2+7+8  2+6+10  2+7+10 | 15,14  13  12,11  10  9,8,7  6,5,43,2,1 |
| 2 | Made a lot of significant mistakes when answering (< 70%) the questions that reflect the development of the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) | 4 | Independently stated all the questions of the ticket within the information of the main literature, reflecting the development of the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) in full | 9 | Insufficient development of clinical thinking skills and the ability to evaluate situational tasks that fully and correctly reflect the stages of mastering the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) |
| 5 | An insufficiently complete statement of all the questions of the ticket, which required additional leading questions, reflecting the development of the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) | 10 | Lack of clinical thinking skills and the ability to evaluate situational tasks that fully and correctly reflect the stages of mastering the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) |
| 6 | Ignorance of one of the two questions, with the correct presentation of the other, reflecting the development of the level of knowledge and skills required for the formation of competencies (СPС-4, PС-5, PС-6) |
| 7 | Ignorance of two ticket questions |

**Sample exam ticket**

FEDERAL STATE BUDGETARY EDUCATIONAL INSTITUTION OF HIGHER EDUCATION

"ORENBURG STATE MEDICAL UNIVERSITY»

MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

Department of Propaedeutics of Internal Diseases

the direction of training (specialty) 31.05.01 General medicine

(faculty of foreign students)

discipline propaedeutics of internal diseases

**EXAM TICKET No. 7**

**I. VERSION OF THE SET OF TEST TASKS No. 5**

**II. THEORETICAL QUESTIONS**

1. Examination data for cardiovascular diseases: cyanosis, edema, negative and positive venous pulse, cardiac hump, pathological pulsations in the heart and blood vessels. Signs of decompensation of cardiac activity.

2. Differential diagnosis of cardiac asthma and bronchial asthma.

3. Pyelonephritis. Etiology, pathogenesis, clinic. The study of urine by Nechiporenko.

**III. PRACTICAL PART**

Situational task № 31

Head of the Department, Doctor of Medical Sciences,

Professor (K. M. Ivanov)

Dean of the Faculty of Foreign Students,

MD, Associate Professor (A. O. Mironov)

2021

**Table of correspondence between the results of training in the discipline and the evaluation materials used in the intermediate certification.**

|  |  |  |  |
| --- | --- | --- | --- |
| № | Verifiable competence | Descriptor | A monitoring and evaluation tool (the number of the question/practical exercises) |
| 1 | СPС-1 is able to implement moral and legal norms, ethical and deontological principles in professional activity | Know moral and legal norms, observe ethical and deontological principles in professional activity. Know the principles and fundamentals of professional confidentiality in order to respect the interests of the patient | Questions  № 1,2,3,4,12,21,70 |
| Be able to apply professional duties and rules of conduct of a medical worker in the relationship with the patient, his relatives, as well as between colleagues in the medical team. To conduct an interview of the patient, to correctly collect the anamnesis of patients. Be able to apply the principle of professional confidentiality in order to respect the interests of the patient in the professional activity of the doctor | Practical tasks  № 33, 34, 35 |
| Possess the skill of using moral, ethical and deontological principles when interviewing patients with diseases of various organ systems, in professional communication with colleagues and patients. Possess the skills of applying the principles of professional confidentiality in the activities of a doctor. | Practical tasks № 33, 34, 35 |
| 2 | PC-3 ability and willingness to perform a complete clinical examination of the patient, analysis and interpretation of the data obtained. | To know the theoretical foundations of direct research methods, modern methods of clinical, laboratory and instrumental diagnostics of patients with a therapeutic profile. | Questions  № 4, 5, 6, 7,8,10,11,12,13,14, 15,16,17,18,19,20, 21,22,23,24,25,26, 27,28,29,30,31,32, 34,35,36,37,38,39, 40,41,42,43,44,45, 46,47,48,49,50,51, 52,53,54,55,56,57, 58,59,61,62,63,64, 65,66,67,68,69 |
| Be able to conduct a physical examination, be able to interpret the results of modern methods of clinical, laboratory and instrumental diagnostics of patients with a therapeutic profile. | Practical tasks  № 1, 2, 3, 4, 5,6,7,8,9, 10,11,12,13,14,15, 16,17,18,19,20,21, 22,23,24,25,26,27, 28,29,30,31,32 |
| Master the methods of physical examination of the patient, possess the skills of analysis and interpretation of the obtained data of questioning, the results of direct methods, laboratory, instrumental methods of examination of patients with a therapeutic profile | Practical tasks  № 1, 2, 3, 4, 5,6,7,8,9, 10,11,12,13,14,15, 16,17,18,19,20,21, 22,23,24,25,26,27, 28,29,30,31,32 |
| 3 | PC-4 Readiness to determine, formulate a diagnosis taking into account the current international statistical classification of diseases and health-related problems (ICD) | To know the main clinical syndromes in the clinic of internal diseases occurring in a typical form in the adult population. | Questions№ 4, 5, 6, 7,8,10,11,12,13,14, 15,16,17,18,19,20, 21,22,23,24,25,26, 27,28,29,30,31,32, 34,35,36,37,38,39, 40,41,42,43,44,45, 46,47,48,49,50,51, 52,53,54,55,56,57, 58,59,61,62,63,64, 65,66,67,68,69 |
| Be able to interpret the results of physical and laboratory-instrumental examination, be able to formalize the medical history of an inpatient patient with the most common therapeutic pathology. | Practical tasks  № 1, 2, 3, 4, 5,6,7,8,9, 10,11,12,13,14,15, 16,17,18,19,20,21, 22,23,24,25,26,27, 28,29,30,31,32 |
| Possess the skill of identifying symptoms and syndromes in the most common therapeutic pathology. | Practical tasks  № 1, 2, 3, 4, 5,6,7,8,9, 10,11,12,13,14,15, 16,17,18,19,20,21, 22,23,24,25,26,27, 28,29,30,31,32 |

**4. Methodological recommendations for the use of the point-rating system.**

As part of the implementation of the point-rating system for evaluating the educational achievements of students in the discipline (module) in accordance with the regulation "On the point-rating system for evaluating the educational achievements of students", the following rules for forming the current actual rating of the student are defined.

The current actual rating for the discipline (module) (maximum 5 points) is made up of the sum of the points scored as a result:

- current monitoring of students ' progress at each practical lesson in the discipline;

- boundary control of students ' progress in each module of the discipline;

- independent (extracurricular) work of students.

For each practical lesson, the student receives up to 10 points inclusive. The number of points is made up of the received scores, by summing them up and calculating the arithmetic mean.

At the end of each module of the discipline, a boundary control is carried out in the form of testing and the number of points of the boundary control is determined by a maximum of 5 points.

**Criteria for evaluating test results:**

91-100% correct answers - 5 points;

81-90% correct answers – 4 points;

71 - 80% correct answers – 3 points;

less than 70 % of correct answers – 2 points**.**

For completing each task for independent (extracurricular) work, the student receives the number of points in accordance with the evaluation criteria specified in the FOS.

The current actual rating is obtained by summing up the points for each of the above areas.

The rules for the formation of bonus points student

Bonus points awarded by the decision of the department to the student for certain types of academic activity shown during the study of the discipline. Bonus points range from 0 to 5. Criteria for receiving bonus points:

* students ' attendance at all practical classes and lectures – 2 points;
* the results of the student's participation in the subject Olympiad in the studied discipline held at the department: 1st place – 3 points, 2nd place-3 points, 3rd place-2 points, participation – 1 point.

**Options for classifying the knowledge and actions of the student on the exam**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **№** | **Variants of classifications of knowledge and actions of the student on the exam** | | | | | **Approximate scale of exam scores** | |
| **№** | **Test tasks** | **№** | **Theoretical questions**  **(3 questions in the ticket)** | **№** | **Practical part: solving situational problems** | **A combination of variants of classifications of knowledge and actions of the student** | **Scores** |
| 1  2  3 | Correctly answered all the questions posed (>91%), reflecting the development of the level of knowledge, skills required for the formation of competencies (СPС-1; PC-3; PC-4) in full -3 points  Correctly answered the questions posed (90-81%), reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4) in full -2 points  Correctly answered the questions posed by 80-71%), reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4) in full -1 point | 12 | Correct, complete independent presentation of the issue using the material of the lecture course, practical classes, basic and additional literature, reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4). Free orientation in questions of physical research, semiology, laboratory and instrumental research. Correct answers to additional questions - 7 points | 18 | The presence of clinical thinking skills and the ability to evaluate situational tasks that fully and correctly reflect the stages of mastering the level of knowledge, skills required for the formation of competencies (PC-3; PC-4) in full. Correct assessment of the laboratory examination using medical terminology in the conclusion, knowledge of the laboratory examination methodology and correct answers to additional questions on the alleged pathology – 5 points | 1+11+18  2+11+18  3+11+18  1+10+18  2+9+16  2+9+16  2+9+17  2+9+17  3+7+15  3+7+14  3+8+14  3+8+15  3+6+13  3+6+12  4+6+13  4+7+12 | 26,27,28,  29,30  20,21,22,23,24,25  15,16,17,18,19  14,13,12,11,10,9,8,7,6,5,4,3,2,1,0. |
| 4 | Made a lot of significant mistakes when answering (< 71%) the questions posed, reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4) – 0 points | 11 | Correct independent presentation of the issue using the material of the lecture course, practical classes, basic and additional literature, reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4). Insufficient orientation in the issues of physical research, semiology, laboratory and instrumental research, which requires clarification. Correct answers to additional questions – 6 points | 17 | Correct assessment of laboratory research using medical terminology in the conclusion, knowledge of laboratory research methodology. There are no correct answers to additional questions on the alleged pathology required for the formation of competencies (PC-3; PC-4) – 4 points |
| 10 | Correct independent presentation of the issue using the material of the lecture course, practical classes, basic and additional literature, reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4). Insufficient orientation in the issues of physical research, semiology, laboratory and instrumental research, which requires clarification. There are no correct answers to additional questions.  - 5 points | 16 | Correct evaluation of the laboratory study. Lack of knowledge of medical terminology, conducted methods of laboratory research required for the formation of competencies (PC-3; PC-4) There are no correct answers to additional questions on the alleged pathology – 3 points |
| 9 | The correct presentation of the question using the material of the lecture course, practical classes, basic literature, reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4). Insufficient orientation in the issues of physical research, semiology, laboratory and instrumental research, which requires clarification. There are no correct answers to additional questions.  - 4 points | 15 | Errors in the interpretation of the laboratory study. Lack of knowledge of medical terminology, conducted methods of laboratory research required for the formation of competencies (PC-3; PC-4) There are no correct answers to additional questions on the alleged pathology – 2 points |
| 8 | An insufficiently complete statement of the issue, which required additional, leading questions reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4). Lack of knowledge of the lecture course material. Insufficient and erroneous orientation in the issues of physical research, semiology, laboratory and instrumental research, which requires clarification. There are no correct answers to additional questions -3 points | 14 | Incorrect evaluation of a laboratory study. Lack of knowledge of medical terminology, conducted methods of laboratory research required for the formation of competencies (PC-3; PC-4) There are no correct answers to additional questions on the alleged pathology – 1 point |
| 7 | Insufficiently complete presentation of the issue, with the lack of knowledge of the lecture course material, practical exercises reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4). There is no orientation in the issues of physical research, semiology, laboratory and instrumental research. There are no correct answers to additional questions – 2 points | 13 | There is no answer to the analysis of the laboratory study required for the formation of competencies (PC-3; PC-4) – 0 points |
| 6 | Can't answer on his own. There is no knowledge of the material of the lecture course, practical classes. There is no orientation in the issues of physical research, semiology, laboratory and instrumental research, reflecting the development of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4). There are no correct answers to additional questions – 1 point |  |  |
| 5 | There is no answer to the theoretical question There is no mastering of the level of knowledge, skills required for the formation of competencies (CPC-1; PC-3; PC-4) - 0 points |  |  |