FEDERAL STATE BUDGET EDUCATIONAL INSTITUTION OF HIGHER EDUCATION
"ROSTOV STATE MEDICAL UNIVERSITY" OF THE MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

FACULTY OF TREATMENT AND PREVENTION

Fund of assessment funds for the discipline “Phthisiology”

Specialty 05/31/01 General Medicine

2023

1. **List of competencies formed by the discipline (in full orpartially)***

universal (UK)/general cultural (OK)

Code and name of universal/general cultural competence	Indicator(s) of achieving universal/general cultural competence

general professional (OPK):

Code and name of general professional competence	Indicator(s) of achieving general professional competence

professional (PC)

Code and name of professionalcompetencies	Indicator(s) of professional achievementcompetencies
PC-5 Readiness to collect and analyze complaintsthe patient, his medical history, inspection results, laboratory,instrumental,pathological and otherrecognition research state or establishment factpresence or absence of disease.	ID-1 PC-5 Ability to collect patient complaints and anamnesis. ID-2 PC-5 Ability to examine a patient. ID-3 PC-5 The ability to analyze the patient's complaints, his medical history, the results of examination, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of the disease.
PC-6 Ability to determine the patient's main pathological conditions, symptoms, disease syndromes, nosological forms inAccording to Internationalstatistical classification of diseases and health problems, X revision.	ID-1 PC-6 Ability to identify the patient's main pathological conditions, symptoms, disease syndromes, nosological forms in accordance withInternational statisticalclassification of diseases and health problems, X revision.
PC-8 Ability to determine tactics for managing patients with various nosological forms	ID-1 PC-8 Ability to determine tactics for managing patients with various nosological forms

2. **Types of assessment materials in accordance with the generated competencies**

Namecompetencies	Types of assessment materials	number of tasks **for 1 competency**
PC-5	Closed tasks	25 with sample answers
	QuestsOpen type:Situational tasks – 56 Questions for an interview – 11 Tasks for additions – 8	75 with sample answers
PK-6	Closed tasks	25 with sample answers
	QuestsOpen type:Situational tasks – 57 Questions for an interview – 10 Tasks for additions – 8	75 with sample answers
PK-8	Closed tasks	25 with sample answers
	Open type tasks:	75 with sample answers

	Situational tasks – 55 Interview questions – 12 Addition tasks – 8	

PC – 5:
Closed type tasks:

Task 1. Instructions: Choose one correct answer.

The most effective and reliable research method in identifying mycobacteria

1. fluorescence microscopy
2. culture method
3. bacterioscopy
4. biochemical research

*Sample answer:*2. culture method

Task 2. Instructions: Choose one correct answer.

The main objects of research on Mycobacterium tuberculosis are all of the following except

1. sputum
2. bronchial lavage water
3. urine
4. blood

Response standard: 4. blood

Task 3. Instructions: Choose one correct answer.

The main clinical manifestations of paraspecific reactions attuberculosis are

1. Erythema nodosum and phlyctenular conjunctivitis
2. enlarged peripheral lymph nodes
3. rhinitis and tonsil hypertrophy
4. enlarged liver and spleen

Response standard: 1. erythema nodosum and phlyctenular conjunctivitis

Task 4. Instructions: Choose one correct answer.

Complaints of a patient with tuberculosis

1. are specific for this disease and allow us to understand conductdifferential diagnosis with other pulmonary pathologies

2. in some cases, complaints can be used to diagnose tuberculosis
3. have specific features and allow one to suspect respiratory tuberculosis
4. are non-specific and do not allow one to judge with confidence about the nature of the disease. Standard answer: 4. non-specific and do not allow one to judge with confidence about the nature of the disease

Task 5. Instructions: Choose one correct answer.

The presence of a layer of air in the pleural cavity can be judged from the following data:

1. auscultation of the lungs
2. percussion of the chest cavity
3. definition of voice tremors over the lungs
4. all of the above

Response standard: 4. all of the above

Task 6. Instructions: Choose one correct answer.

In patients with initial manifestations of pulmonary tuberculosis, upon examination the following is usually noted:

1. dystrophic skin changes
2. widened intercostal spaces
3. absence of any visible pathological changes
4. underweight

Response standard: 3. absence of any visible pathological changes

Task 7. Instructions: Choose one correct answer.

To detect acid-fast mycobacteria in diagnostic material, it must be stained using the following method:

1. Grama
2. Boyle - Mariotta
3. Van Gieson
4. Tsilya - Nelsen

Response standard: 4. Tsilya - Nelsen

Task 8. Instructions: Choose one correct answer.

The biological type of mycobacteria allows us to establish:

1. direct microscopy after Ziehl-Neelsen staining
2. direct microscopy after flotation
3. fluorescence microscopy
4. cultural research

Response standard: 4. cultural examination

Task 9. Instructions: Choose one correct answer.

A quick way to determine the sensitivity of MBT to drugs is:

1. fluorescence microscopy
2. research using biological microarrays
3. graduated Pirquet test
4. T-Spot.TV test

Response standard: 2. research using biological microchips

Task 10. Instructions: Choose one correct answer.

The most informative method for identifying the decay phase of pulmonary tuberculosis:

1. fibrobronchoscopy
2. magnetic resonance imaging (MRI)
3. tomography
4. computed tomography (CT)

Response standard: 4. computed tomography (CT)

Task 11. Instructions: Choose one correct answer.

For tuberculosis of the respiratory system, endoscopic methods are most often used:

1. thoracoscopy
2. fibrobronchoscopy
3. laryngoscopy
4. rhinoscopy

Response standard: 2. fiberoptic bronchoscopy

Task 12. Instructions: Choose one correct answer.

Mandatory diagnostic minimum when examining a patient

VTB dispensary does not include:

1. clinical blood test

2. Ziehl-Neelsen sputum microscopy
3. chest x-ray
4. Ultrasound of the pleural cavity

Response standard: 4. Ultrasound of the pleural cavity

Task 13. Instructions: Choose one correct answer. Pulmonary tuberculosis is characterized by intoxication complaints of:

1. increase in body temperature
2. sweating
3. weakness
4. all listed

Response standard: 4. all listed

Task 14. Instructions: Choose one correct answer. Pulmonary tuberculosis is characterized by bronchopulmonary complaints of:

1. cough
2. hemoptysis
3. shortness of breath
4. all of the above

Response standard: 4. all listed

Task 15. Instructions: Choose one correct answer.
Cheesy necrosis of lung tissue is characterized by:

1. development of productive inflammation
2. development of exudative inflammation
3. development of primary necrosis
4. development of fibrosis

Response standard: 3. development of primary necrosis

Task 16. Instructions: Choose one correct answer.
X-ray examination for respiratory diseases should begin:

1. with fluorography
2. from fluoroscopy in various projections
3. with plain radiography in frontal and lateral projections
4. with tomography of the mediastinum in direct and lateral projections

Response standard: 3. with survey radiography in frontal and lateral projections

Task 17. Instructions: Choose one correct answer.

The main method for early detection of tuberculosis in adults is

1. mass tuberculin diagnostics
2. mass fluorography and fluorography of decreed population groups
3. mass preventive examinations
4. mass bacteriological examination

Response standard: 2. mass fluorography and fluorography of decreed population groups

Task 18. Instructions: Choose one correct answer.

Biochemical blood parameters correlate with the severity of tuberculosis:

1. Yes
2. No
3. only in cases of disseminated forms of tuberculosis
4. only in young children

Response standard: 1. yes

Task 19. Instructions: Choose one correct answer.

A form of pulmonary tuberculosis, which is characterized by the presence of an isolated cavity formation:

1. infiltrative pulmonary tuberculosis in the decay phase
2. cavernous pulmonary tuberculosis
3. focal pulmonary tuberculosis in the decay phase
4. fibrous-cavernous pulmonary tuberculosis

Response standard: 2. cavernous pulmonary tuberculosis

Task 20. Instructions: Choose one correct answer.

On an x-ray, cavernous tuberculosis looks like:

1. focal shadow
2. groups of outbreaks
3. total blackout
4. ring shadow

Response standard: 4. ring shadow

Task 21. Instructions: Choose several correct answers.

According to X-ray examination data, the following phases of the tuberculosis process in the intrathoracic lymph nodes can be distinguished:

1. infiltration
2. resorption
3. disintegration
4. calcification

Response standard: 1, 2, 4

Task 22. Instructions: Choose several correct answers.

Characteristic clinical manifestations in the initial period exudativepleurisy in tuberculosis are

1. low-grade fever
2. chest pain
3. moist cough
4. intoxication syndrome

Response standard: 1, 2, 4

Task 23. Instructions: Establish a correspondence between the clinical form of tuberculosis and the radiological syndrome

1. Disseminated tuberculosis	A. Focal shadow syndrome
2. Focal tuberculosis	B. Dissemination syndrome
3. Tuberculoma	B. Lung tissue compaction syndrome
4. Cirrhotic tuberculosis	D. Round shadow syndrome

Response standard: 1 – B, 2 – A, 3 – D, 4 – C

Task 24. Instructions: Establish a correspondence between the result of a test with recombinant tuberculosis allergen and its definition

1.Negative	A. Presence of hyperemia without infiltration
2.Doubtful	B. Complete absence of infiltration or the presence of a “prick reaction”
3.Positive	B. The size of the infiltrate is more than 15 mm and/or vesiculo-necrotic changes,

	lymphangitis, lymphadenitis, regardless of infiltrate size
4.Hyperergic	D. Presence of papules of any size

Response standard: 1 – B, 2 – A, 3 – D, 4 – C

Task 25. Instructions: Establish a correspondence between sensitivity to tuberculin and the result of the Mantoux test

1.Anergy	A. Injection mark
2. Questionable sensitivity	B. Papule 3 mm
3.Weak degree of sensitivity	B. Hyperemia 6 mm
4. Pronounced degree of sensitivity	G. Papule 15 mm

Response standard: 1 – A, 2 – B, 3 – B, 4 – D

Open type tasks: Task 26.

Repainting

_____ acid-fast mycobacteria

are painted red and the surrounding background is

non-acid-resistantmicroorganisms – in blue.

Response standard: Tsil – Nelsen

Task 27.

For _____ diagnostic preparation stained

auramine or auramine with rhodamine.

*Sample answer:*fluorescence microscopy

Task 28.

A quick way to determine the drug resistance of Mycobacterium tuberculosis is to use

_____

to assess genetic DNA polymorphism.

*Sample answer:*biological microchips

Task 29.

Computed tomography provides images_____

layers (slices) of the human body and three-dimensional images.

Response standard: transverse

Task 30.

Method _____ applicable for mass preventive X-ray examination of the population from 15 years of age in order to identify lung diseases, including tuberculosis.

*Sample answer:*fluorography

Task 31.

Immunological diagnostics for acute miliary tuberculosis reveals a sharp depression _____immunity.

Response standard: cellular

Task 32.

In cavernous tuberculosis, one is usually determined _____round shadow.

*Sample answer:*ring-shaped

Task 33.

When examining sputum in patients with fibrous-cavernous tuberculosis, there may be discovered _____ – mycobacterium tuberculosis, crystals cholesterol, amorphous phosphate salts and calcified elastic fibers.

*Sample answer:*Ehrlich tetrad

Task 34.

In a 14-year-old teenager in a clinic, a survey X-ray in the lower lobe of the right lung revealed a rounded focus of darkening with unclear contours and enlarged lymph nodes in the right root. An X-ray examination was carried out because the teenager was diagnosed with a hyperergic test with recombinant tuberculosis allergen - an infiltrate with a diameter of 20 mm. There are no complaints at the moment. Approximately 1.5 months ago, the teenager experienced weakness, malaise, and loss of appetite. Objectively: the skin is pale, peripheral lymph nodes are not enlarged. Complete blood count and general urine test without pathological changes.

1) What anamnesis data needs to be clarified?
2) What is the pediatrician's tactics in this case?

Sample answer:

1) Contacts with tuberculosis patients, family social status, presence of tuberculosis in the family and among blood relatives.
2) Prescribe a computed tomography scan of the chest organs, sputum examination for acid-fast mycobacteria, and refer for consultation to a phthisiatrician.

Task 35.

Patient L., 27 years old, pediatrician. I consulted a therapist with complaints of pain when inhaling on the right side under the collarbone, dry cough, low-grade fever, and night sweats. Considers himself sick for about 1.5 months. He took amoxicillin on his own for 10 days. At the age of 10, he suffered from tuberculosis of the left hip joint, for which he was treated for a long time in a sanatorium. He currently denies contact with tuberculosis patients. The last fluorographic examination of the lungs was 6 months ago, without pathology. Objectively: the condition is satisfactory, the posterior cervical and axillary lymph nodes are palpable, dense, painless, mobile and not enlarged. On a plain X-ray of the chest organs on the right, at the level of the first intercostal space, a shadow of 2.0 x 3.0 cm of average intensity of a heterogeneous structure of irregular shape with isolated foci of dropout. The mediastinal shadow is normal. The costophrenic sinuses are free, deep, the diaphragm is smooth. General blood test: erythrocytes - 3.5 x 10 12/l, hemoglobin -107 g/l, C.p. -0.98, leukocytes -6.8 x 10 9/l, e - 1%, p.i. -7%, s/i-65%, l-17%, m-4%, ESR-21 mm/hour.

General urine analysis without pathological changes.

Microscopy of sputum with Ziehl-Neelsen staining once - no AFB detected. Test with recombinant tuberculosis allergen – 12 mm papule with vesicles.

1) Evaluate the sample with recombinant tuberculosis allergen.
2) Evaluate the results of the X-ray examination.
3) Specify additional examination methods.

Response standard:

1) The test with recombinant tuberculosis allergen is hyperergic.
2) On a survey radiograph there is a typical localization of changes characteristic of pulmonary tuberculosis: a focal shadow of 2.0 * 3.0 cm of average intensity of a heterogeneous structure of irregular shape with isolated foci of screening.

3) Computed tomography of the chest organs, bacteriological method to confirm the diagnosis and detect MBT.

Task 36.

Patient V., 35 years old. At an appointment with a therapist, he complains of low-grade fever, weakness, excessive sweating, especially at night, fatigue, and a slight dry cough. The disease began gradually. Considers himself sick for three months.

Upon examination, the general condition is satisfactory. Asthenic physique. Body temperature 37.1°C. The skin is clean, pale, blush on the cheeks. Peripheral lymph nodes are not enlarged. On percussion there is a pulmonary sound above the lungs, a slight dullness of the pulmonary sound above the apex on the right. Breathing in the lungs is vesicular; isolated dry rales can be heard in the upper right parts against the background of hard breathing. Heart sounds are muffled and rhythmic. The abdomen is soft and painless. The liver is at the edge of the costal arch, elastic, painless. Stool and urination are not changed.

General blood test: erythrocytes 4.8*1012/l, hemoglobin 110 g/l, leukocytes 9.1*109/l, e-3%, p-6%, s-59%, l-18%, m- 14%, ESR 24 mm/h.

Test with recombinant tuberculosis allergen – 9 mm. Sputum culture for MBT is negative.

X-ray: on the right in S2, against the background of a blurred pulmonary pattern, polymorphic foci with a diameter of 5-9 mm with blurred contours, a tendency to merge the foci is pronounced.

1) What additional examination methods should be prescribed in this case?
2) Which shadow on an x-ray is called a lesion?
3) Evaluate the sample with recombinant tuberculosis allergen.
4) Is a negative sputum culture result a basis for excluding tuberculosis?

Sample answer:

1) Computed tomography of the chest organs, PCR sputum,bronchoscopy with examination of bronchial lavage water for MBT.
2) Radiologically, a rounded shadow with a diameter of up to 10 mm is called a lesion.
3) The test with recombinant tuberculosis allergen is positive.

4) The absence of Mycobacterium tuberculosis in sputum is not a basis for excluding the tuberculosis process.

Task 37.

Patient S., 34 years old, bus driver. During the next fluorographic examination in the clinic, changes were revealed in the right lung; in the upper lobe, an inhomogeneous focus of darkening with unclear contours, with a path to the root and clearing in the center, was determined.

At an appointment with a general practitioner, it was determined that the patient had contact with a neighbor with tuberculosis 2 years ago. 2 weeks before prof. During the examination, he suffered from a flu-like state, during the week he noted an increase in body temperature in the evening to 37.5-37.8 ° C, weakness, and malaise. He did not seek medical help. At the time of visiting the therapist, he noted slight general weakness, no other complaints.

A survey radiograph on the right in 1-2 segments of the lung reveals a darkening measuring 5.0*6.0 cm, of medium intensity, inhomogeneous, with denser focal inclusions and clearings, with a path to the root of the lung, irregular in shape with blurred contours.

1) What should be the further tactics of X-ray examination?
2) What examination should the therapist conduct to clarify the diagnosis?
3) Which specialist consultation is needed?

Sample answer:

1) Computed tomography of the chest organs.
2) Immunological tests, sputum microscopy acid-resistantmycobacteria three times, general blood test, general urine test.
3) Phthisiatrician consultation.

Task 38.

Boy, 6 years old. He was admitted to the hospital with complaints of headache, vomiting that did not bring relief, and fever up to 39ºC. From the anamnesis: he was ill for two weeks, when weakness, sweating, dry cough, fever to subfebrile levels appeared, then headache, vomiting appeared, and convulsions were noted twice.

A child from the 9th pregnancy, birth weight 3600 g, vaccinated with BCG in the maternity hospital, no scar. The family is socially disadvantaged; the father suffers from disseminated pulmonary tuberculosis, MBT (+).

On examination: the condition is serious, conscious, the position is forced: lying on its side, head thrown back, legs brought to the stomach. The skin is pale, dry, subcutaneous fat is poorly developed. Breathing is harsh, respiratory rate is 44 per minute, heart sounds are muffled, rhythmic, heart rate is 138 per minute. Severe neck rigidity, positive Brudzinski's sign superior and inferior, positive Kernig's sign, convergent strabismus, the right palpebral fissure is narrowed, the left corner of the mouth is drooping.

Mantoux test with 2 TE – 9 mm.

Test with recombinant tuberculosis allergen – 10 mm.

Complete blood count – red blood cells 4.8*1012/l, hemoglobin 110 g/l, leukocytes 6.9*109/l, E – 1, P - S – 62, L – 35, M – 2, ESR – 27 mm/h.

A plain X-ray of the chest organs shows an increased pulmonary pattern, the roots of the lungs are expanded and structureless.

Lumbar puncture - cerebrospinal fluid under high pressure, flows out in a stream, color - light yellow, fibrin film fell out when standing, cytosis - 320, lymphocytes - 87%, protein - 9.9 g/l, Pandi reaction (+++), MBT not detected, sugar - 1.8 mmol/l, chlorides - 86.8 mmol/l.

1) Evaluate the results of immunological tests.
2) What disease can we think about in this case?
3) Based on what data can we assume a tuberculous etiology of meningitis?

Sample answer:

1) Immunological tests are positive.
2) Meningitis.
3) In favor of tuberculous meningitis: contact with a father with tuberculosis, a socially disadvantaged family, positive results of immunological tests, results of a study of cerebrospinal fluid (fibrin film, lymphocytes - 87%, increased protein content, positive Pandi reaction, reduced amount of sugar and chlorides).

Task 39.

The driver of a long-distance refrigerator, 28 years old, returned from another flight "cold": cough with sputum, temperature – 39.2°C, weakness, profuse sweating, scanty sputum in the morning. She has been feeling unwell for more than a month. Twice for

I have suffered from ARVI for the last 3 months. Denies contact with a patient with tuberculosis. He eats irregularly and suffers from chronic gastritis.

Objectively, the patient is malnourished, height 178 cm, weight 69 kg. The skin is pale and moist. The tongue is covered with a white coating. Pulse 92 per minute, rhythmic. Blood pressure – 110/65 mm Hg. Respiratory rate – 22 per 1 minute, on the right in the subscapular region – crepitus and various moist rales. An X-ray of the lungs on the right in the lower lobe shows an inhomogeneous infiltrate with a cavity in the center with a diameter of 2.0*3.0 cm.

1) List the complaints characteristic of tuberculosis.
2) What research methods should be prescribed to clarify the diagnosis of tuberculosis?

Sample answer:

1) Weakness, profuse sweating, cough with phlegm.
2) Examination of sputum using microscopy, PCR, culture, computed tomography of the chest organs, test with recombinant tuberculosis allergen.

Task 40.

The patient is 24 years old. Sent to the anti-tuberculosis dispensary due to contact with a patient with tuberculosis with bacterial excretion. The patient works in a hazardous industry (cement plant). No complaints. History of chronic tonsillitis.

On a plain radiograph of the lungs in the area of the apex of the right lung (first segment) there is a group of low-intensity, ill-defined foci 0.4 - 0.5 cm.

In the general blood test: hemoglobin – 130 g/l, erythrocytes 4.8*10/12 g/l, leukocytes – 8.8*10/9 g/l, ESR – 10 mm/h.

Mantoux test with 2 TE - 15 mm.

When examining sputum using simple bacterioscopy, acid-fast mycobacteria were not detected. Sputum culture was done.

Considering the presence of contact, treatment was prescribed: isoniazid 10% 6.0 IM; rifampicin 0.6; pyrazinamide 1.5; ethambutol 1.2. Single colonies of tuberculosis microbacteria were sown from sputum by culture on the 36th day. After 2 months, partial resorption of the lesions is noted.

1) What are the risk factors for developing tuberculosis in this patient?
2) What other examination should be prescribed for the patient?
3) Assess the radiographic dynamics.

Sample answer:

1) Having contact with a patient with tuberculosis with bacterial excretion, a history of chronic tonsillitis, working in a hazardous industry (cement plant).
2) SCT of the chest organs, skin test with recombinant tuberculosis allergen.
3) X-ray dynamics are positive.

Task 41.

An 18-year-old patient came to the clinic with complaints of lower back pain that worsened with exercise. From the anamnesis it is known that the patient suffered tuberculosis of the intrathoracic lymph nodes at the age of 5 years. I haven't had a fluorogram for 4 years.

An objective examination by a surgeon revealed a sharp limitation of movements in the spine at the level of the thoracolumbar region ("back like a board"). A certain protrusion of the spinous processes of 1st to 2nd lumbar vertebrae is determined.

Complete blood count – red blood cells 3.5*1012/l, hemoglobin 90 g/l, leukocytes 9.8*109 /l, E – 2, P – 8 S – 66, L – 18, M – 6, ESR – 27 mm/h. An x-ray of the thoracolumbar spine in two projections reveals destruction of the L1 – L2 vertebral bodies, narrowing of the intervertebral gaps between them. Shadow extension m. Iliopsoas on the left.

1) What disease can you think about in this case?
2) What should be the surgeon's tactics?
3) What studies should be ordered to confirm the tuberculosis etiology of the disease?

Sample answer:

1) Tuberculous spondylitis.
2) Computed tomography of the thoracic cavity, thoracolumbar spine, recombinant tuberculosis allergen test, consultation with a phthisiotraumatologist-orthopedist.
3) Bacteriological and histological examination of diagnostic material.

Task 42.

A 12-year-old girl consulted a surgeon with complaints of pain in the right hip joint - constant, worsening in the evening and radiating to the lower limb. On examination, limited mobility in the joint is noted. An x-ray of the right hip joint reveals osteoporosis, the upper contours of the femoral head are unclear, with destruction of bone tissue, and narrowing of the joint space.

From the anamnesis: the older sister suffers from tuberculosis (Infiltrative tuberculosis of the upper lobe of the right lung, MBT (+)). The patient is registered with a phthisiatrician by contact, and refuses to carry out preventive treatment.

The result of the test with recombinant tuberculosis allergen is 17 mm; last year the result was negative.

1) What disease can be suspected?
2) Evaluate the X-ray data.
3) Evaluate the dynamics of immunological samples.

Sample answer:

1) Tuberculosis of the right hip joint.
2) The x-ray revealed changes characteristic of tuberculosis
   lesions: osteoporosis, destruction of bone tissue, narrowing of the joint space.
3) Virus of immunological tests.

Task 43.

A 56-year-old patient was admitted to the surgical department of a district hospital with a diagnosis of

"left-sided femoral hernia", which appeared 2 months ago for no apparent reason. The patient is bothered by lower back pain, which gets worse when walking, malaise, sweating, and periodically the temperature rises to 38.2º. A more thorough examination reveals that in the left iliac region there is a fluctuation along the

m. Iliopsoas, and the cavity in the muscle connects with a formation that was taken for a hernia. During puncture, about 1.5 liters of thick greenish-gray pus was obtained.

1) What disease can you think about and why?
2) What studies should be ordered to clarify the diagnosis?
3) Which specialist consultation is needed?

Sample answer:

1) Tuberculous spondylitis complicated by an abscess. Tuberculosis etiology can be assumed based on the following data: the appearance of a "hernia" for no apparent reason, complaints of lower back pain that worsens when walking, malaise, sweating, and periodic increases in body temperature.
2) MRI of the spine, bacteriological examination of MBT pus.
3) Consultation with a phthisiotraumatologist-orthopedist.

Task 44.

A 32-year-old woman has been experiencing irritability, sweating, fatigue, coughing without sputum production, sleep disturbances and decreased appetite, and low-grade fever in the evenings for the last 3 months. Auscultation over the lungs reveals vesicular breathing. In the general blood test: ESR – 18 mm/h, leukocytes – 8.1*109/l. On a plain X-ray of the lungs: on the right, in the first and second segments, a group of foci is identified, in some places confluent in nature. On the left in the first segment there are single lesions with unclear contours.

1) What disease can you think about?
2) What should the therapist's tactics be in this case?

Sample answer:

1) About pulmonary tuberculosis.
2) Additional examination (computed tomography of the chest organs, sputum microscopy for acid-fast mycobacteria three times, general blood test, general urinalysis, recombinant tuberculosis allergen test), consultation with a phthisiatrician.

Task 45.

A 28-year-old man developed gradually increasing general weakness, fatigue, and sweating. An X-ray examination 2 months after the onset of complaints revealed a rounded homogeneous shadow, with unclear contours, 3 cm in diameter, with clearing in the center, on the right in the 2nd segment. In sputum, flotation method detected AFB 2-3 in the field of view. Blood test: red blood cells 4.8*1012/l, hemoglobin 130 g/l, leukocytes 10.2*109/l, E-3, P-8, S-49, L-32, M-8, ESR 30 mm /hour.

Mantoux test – 25 mm.

1) Evaluate the complete blood count.
2) Evaluate the Mantoux test.
3) What other examination needs to be ordered and for what purpose?

Sample answer:

1) Leukocytosis, shift of the leukocyte formula to the left, increase in ESR.
2) Mantoux test is hyperergic.
3) In order to verify the diagnosis of tuberculosis, it is necessary to prescribe sputum cultures for MBT, as well as computed tomography of the chest organs to clarify radiological changes.

Task 46.

A 29-year-old patient consulted a therapist with complaints of weakness, dry cough, aching pain in the area of the right shoulder blade, and weight loss. He considers himself sick for about 2 months.

During an objective examination: there is a clear pulmonary sound over all pulmonary fields, and on auscultation on the right in the interscapular region there are moist medium-bubble rales. There is no pathology from other internal organs.

Blood test: red blood cells 4.8*1012/l, hemoglobin 100 g/l, leukocytes 9.5*109/l, E-3, P-7, S-52, L-32, M-6, ESR 25 mm /hour.

Single sputum microscopy – no AFB detected. Mantoux reaction with 2TE – 15 mm.

On the plain radiograph on the right, in the 2nd segment, there is a rounded shadow measuring 3.0*4.0 cm, of medium intensity with clear contours, inhomogeneous due to the inclusion of calcifications and areas of clearing. Around the shadow there are a few medium and low intensity shadows of foci with unclear contours.

1) What additional examination should the therapist prescribe?
2) Which specialist consultation is necessary in this case?

Sample answer:

1) SCT of the chest organs, probed with tuberculosis allergen recombinant, repeat sputum microscopy for AFB.
2) Phthisiatrician consultation.

Task 47.

A 4-year-old girl developed a dry cough and a temperature of up to 38.0ºC as a result of contact with her father, who had tuberculosis. From the anamnesis: mother refused BCG vaccination. Did not receive preventive treatment based on contact - refusal.

Treatment with broad-spectrum antibiotics had no effect. Mantoux test with 2 TE – 7 mm for the first time. There are no physical changes in the lungs. On the plain radiograph on the right - in the lower lobe - there is a polymorphic infiltrate, spreading to the expanded root.

1) What disease can be assumed in this case?
2) List the risk factors for developing tuberculosis in this child?
3) Evaluate the Mantoux test.
4) What examination should be ordered to clarify the diagnosis?

Sample answer:

1) The primary form of tuberculosis infection is the primary tuberculosis complex.

2) Lack of BCG vaccination, family contact with a patient with tuberculosis, refusal of preventive treatment for contact.
3) Virus of tuberculin tests.
4) Test with recombinant tuberculosis allergen, SCT of the chest organs.

Task 48.

A 23-year-old patient has been in the hospital's therapeutic department for 14 days with a diagnosis of left-sided lower lobe pneumonia. Against the background of the complex treatment, no positive dynamics are observed.

From the anamnesis it turned out that over the past 2 months she has been feeling unwell, noted weakness, poor sleep, decreased appetite, dry cough, fatigue and sweating. The temperature at times rises to 38.0 – 39.0ºC.

On examination, the skin is pale, moist, the subcutaneous fat layer is thinned. Percussion - over all pulmonary fields there is some shortening of the pulmonary sound. Auscultation on both sides reveals moist rales of various sizes, mainly in the lower sections.

General blood test: red blood cells 3.4*1012/l, hemoglobin 78 g/l, leukocytes 10.3*109/l, E-2, P-1, S-79, L-18, M-10, ESR 56 mm/hour.

Sputum microscopy for AFB once upon admission is negative.

ECG – sinus tachycardia. Partial disruption of intraventricular conduction. Spirography is signs of a sharp violation of restrictive pulmonary ventilation. On a plain X-ray of the lungs, the lower lobe of the right lung showsintense heterogeneous infiltration with multiple decay cavities of various sizes and shapes, in dynamics there is an increase in the size and number of cavities.

1) What disease can be suspected in this case?
2) Evaluate the complete blood count.
3) Based on what data can you think about tuberculosis? etiologydiseases?
4) What examination should be ordered to quickly clarify the etiology of the disease?

Sample answer:

1) Caseous pneumonia.

2) Decrease in the level of red blood cells, hemoglobin, leukocytosis, lymphopenia, significant increase in ESR.
3) Gradual development of the disease over 2 months, complaints of weakness, poor sleep, loss of appetite, dry cough, fatigue and sweating, characteristic x-ray picture (heterogeneous infiltration, multiple decay cavities), lack of positive dynamics during treatment.
4) Sputum PCR, sputum culture for MBT on liquid media (VASTES).

Task 49.

A 5-year-old child had a positive Mantoux test with 2 TE, papule size 10 mm. In the past, tuberculin tests were negative.

1) Evaluate the Mantoux test.
2) What examination should be prescribed for the child?
3) What information should be provided to a TB doctor when referring a child for consultation?

Sample answer:

1) Virus of tuberculin tests.
2) Test with recombinant tuberculosis allergen, SCT of the chest organs.
3) Information on BCG vaccination, results of all immunological tests, results of fluorographic examination of family members of a child over 15 years of age, data on contact with tuberculosis patients, data on past allergic diseases, expert opinions on the presence of concomitant pathologies, previous consultations with a phthisiatrician.

Task 50.

A 22-year-old woman was admitted to the infectious diseases department of the hospital with a temperature of up to 39.0 - 39.5ºC, dry cough, and shortness of breath. There are no wheezes in the lungs. Apart from chronic tonsillitis, no other source of temperature was identified. After a course of treatment with broad-spectrum antibiotics, the condition improved, and the patient was discharged for outpatient treatment. After 2 weeks, the woman’s condition sharply worsened, the temperature rose again to 39.2ºC, severe headaches and vomiting, and neck stiffness appeared. An X-ray of the lungs shows finely focal shadows throughout all lung fields.

General blood test: red blood cells 4.0*1012/l, hemoglobin 110 g/l, leukocytes 9.3*109/l, E-3, P-6, S-65, L-22, M-4, ESR 32 mm/hour.

1) Name the main radiological syndrome.
2) Evaluate the complete blood count.
3) What preliminary diagnosis can be made in this case and why?
4) What additional examination should be prescribed to clarify the diagnosis?

Sample answer:

1) Syndrome of small focal (miliary) dissemination.
2) Decreased hemoglobin level, leukocytosis, shift of the leukocyte formula to the left, increased ESR.
3) Generalized tuberculosis: acute disseminated (miliary) pulmonary tuberculosis, tuberculous meningitis.
4) Examination of sputum and cerebrospinal fluid for MBT using all methods (microscopy, PCR, culture), computed tomography of the chest organs.

Task 51.

A 9-year-old boy was brought to see a neurologist by his mother with complaints of decreased appetite, pallor, headaches, and moodiness. School performance has declined. On examination, the child has low nutrition, pale skin, moderate enlargement of the cervical, submandibular and axillary lymph nodes up to 1.0-1.5 cm in diameter.

General blood test: red blood cells 4.5*1012/l, hemoglobin 102 g/l, leukocytes 6.3*109/l, E-3, P-2, S-65, L-28, M-2, ESR 16 mm/hour.

The school carried out another test with the recombinant tuberculosis allergen, the result for the first time was 10 mm.

A plain X-ray of the lungs did not reveal any pathological changes.

1) Evaluate the Mantoux test.
2) What should be the neurologist's tactics?
3) What diseases need to be excluded in this case?
4) Pediatrician tactics.

Sample answer:

1) Virus of tuberculin tests.
2) The neurologist's task is to exclude neurological pathology and refer the child to a local pediatrician.

3) It is necessary to exclude diseases that are accompanied by intoxication syndrome: chronic tonsillitis, adenoids, sinusitis, helminthic infestations, multiple dental caries, urinary tract infections, etc.
4) Refer the child for SCT of the chest organs and consultation with a phthisiatrician.

Task 52.

Patient P., 38 years old. Complaints of low-grade fever, weakness, increased fatigue, night sweats, dry cough. The disease began gradually. Considers himself sick for three months.

Upon examination, the general condition is satisfactory. Asthenic physique, low nutrition. Body temperature 37.2°C. The skin is clean and pale. Peripheral lymph nodes are not enlarged. Zev is clean. The chest is cylindrical in shape. On percussion there is a pulmonary sound above the lungs, a slight dullness of the pulmonary sound above the apex on the right. Breathing in the lungs is vesicular; isolated dry rales can be heard in the upper right parts against the background of hard breathing. Heart sounds are muffled and rhythmic. The abdomen is soft and painless. The liver is at the edge of the costal arch, elastic, painless. Stool and urination are not changed.

General blood test: red blood cells 4.7*1012/l, hemoglobin 125 g/l, leukocytes 9.1*109/l, E-3, P-6, S-59, L-18, M-14, ESR 24 mm/hour.

Test with recombinant tuberculosis allergen – 18 mm. Sputum

culture for MBT is negative.

X-ray: on the left in S1 a group of small foci with unclear contours is determined.

1) What additional examination methods should be prescribed in this case?
2) Which shadow on an x-ray is called a lesion?
3) Evaluate the sample with recombinant tuberculosis allergen.
4) Is a negative sputum culture result a basis for excluding tuberculosis?

Sample answer:

1) Computed tomography of the chest organs, PCR sputum,bronchoscopy with examination of bronchial lavage water for MBT.
2) Radiologically, a rounded shadow with a diameter of up to 10 mm is called a lesion.
3) The test with recombinant tuberculosis allergen is hyperergic.

4) The absence of Mycobacterium tuberculosis in sputum is not a basis for excluding the tuberculosis process.

Task 53.

In a 46-year-old patient who works in a mine and suffers from silicosis, a regular X-ray examination of the lungs revealed many lesions on both sides from the collarbone to the 5th rib. He refused additional examination. A year later, the condition worsened: the temperature periodically increased to 37.5-38.0ºC, sweating was noted, and shortness of breath increased somewhat. During an X-ray examination, new soft polymorphic lesions with unclear contours appeared against the background of old lesions and beyond them.

1) What disease can be suspected in this case? Justify your answer.
2) What examination should be ordered to establish a diagnosis?

Sample answer:

1) Disseminated pulmonary tuberculosis based on characteristic complaints of sweating, increased shortness of breath, increased temperature, X-ray examination data, as well as a risk factor for the development of tuberculosis - silicosis.
2) Examination of sputum for MBT by all methods (microscopy, PCR, culture on liquid and solid media), computed tomography of the chest organs, test with recombinant tuberculosis allergen.

Task 54.

At school, during immunological diagnostics, a 9-year-old girl was first identified with the result of a test with recombinant tuberculosis allergen - a 14 mm papule. Parents complain about deterioration in school performance, the child's moodiness, and loss of appetite. The cervical and axillary lymph nodes are moderately enlarged (up to 1.5 cm), soft-elastic consistency, painless, mobile. No pathology was detected on the chest x-ray.

Complete blood count: red blood cells 3.5*1012/l, hemoglobin 98 g/l, leukocytes 5.8*109/l, E-4, P-4, S-60, L-24, M-8, ESR 17 mm/hour.

1) Evaluate the sample with recombinant tuberculosis allergen.
2) Identify the main syndrome.
3) What additional examination should be prescribed for the child?

4) What information should be provided to a TB doctor when referring a child for consultation?

Sample answer:

1) The test with recombinant tuberculosis allergen is positive, detected "turn" of immunological tests.
2) Intoxication syndrome.
3) SCT of the chest organs.
4) Information on BCG vaccination, results of all immunological tests, results of fluorographic examination of family members over 15 years of age, data on contact with tuberculosis patients, data on previous allergic diseases, expert opinions on the presence of concomitant pathology, previous consultations with a phthisiatrician.

Task 55.

In a 16-year-old teenager, fluorography revealed dense polymorphic lesions with clear contours in the subclavian region on the left. He has no complaints and has not had tuberculosis in the past.

1) What additional studies should the pediatrician prescribe to clarify the diagnosis?
2) Which specialist consultation is needed?

Sample answer:

1) SCT of the chest organs, test with recombinant tuberculosis allergen, sputum microscopy for AFB three times.
2) Phthisiatrician consultation.

Task 56.

A 19-year-old boy has been treated for 3 weeks in the therapeutic department of a district hospital for acute pneumonia of the lower lobe of the right lung to no avail. The condition is serious, cough with sputum, temperature –38.5 –39.5ºC.

General blood test: red blood cells 3.5*1012/l, hemoglobin 102 g/l, leukocytes 11.8*109/l, E-4, P-10, S-61, L-17, M-8, ESR 58 mm/hour.

A repeat radiograph three weeks later showed pronounced negative dynamics, with decay cavities appearing against the background of a polymorphic shadow. Sputum microscopy was prescribed for AFB, the result was AFB 3+.

The test with recombinant tuberculosis allergen is negative.

It turned out that the patient had been in contact for a long time with his uncle, who had fibrocavernous pulmonary tuberculosis.

1) Isly negative the result of a test with the allergen tuberculosis recombinant base to exclude the tuberculosis process?
2) Which specialist consultation is needed?
3) What examination should be ordered to verify the diagnosis?

Sample answer:

1) A negative test result with a recombinant tuberculosis allergen is not a basis for excluding the tuberculosis process.
2) Phthisiatrician consultation.
3) Sputum culture for MBT.

Task 57.

A 28-year-old pregnant woman (gestational age 7 weeks) developed symptoms: sweating, low-grade fever, dry cough, weakness, and increased fatigue. It turned out that at the age of 10 she suffered tuberculosis of the intrathoracic lymph nodes.

1) Is it possible to prescribe an x-ray examination?
2) What examination should be prescribed for a woman in this case?
3) Is it necessary to carry out a course of specific therapy if an active tuberculosis process is confirmed?

Sample answer:

1) X-ray examination can be performed if indicated, with the mandatory use of a lead apron to protect the fetus.
2) Examination of sputum for MBT 3 times using microscopy and culture methods, PCR of sputum for the presence of MBT DNA, Mantoux test or test with recombinant tuberculosis allergen.
3) A course of specific therapy is carried out in accordance with clinical recommendations on the general principles of treating a patient with tuberculosis.

Task 58.

A 27-year-old man was hospitalized in an infectious diseases clinic with a temperature of 39.5ºC and suspected typhoid fever. Pulse 115 per minute, respiratory rate 26 per minute, dry painful paroxysmal cough. The liver protrudes from under the edge of the costal arch by 3 cm,

Auscultation in the lungs reveals isolated dry wheezing against the background of hard breathing. A plain X-ray of the lungs shows fine-focal dissemination of both lungs.

1) Based on what data can one doubt the diagnosis of typhoid fever?
2) What disease can be suspected in this case?
3) What additional studies are required to clarify the diagnosis?

Sample answer:

1) Typhoid fever is characterized by relative bradycardia; small-focal dissemination in the lungs is not observed.
2) Acute disseminated (miliary) pulmonary tuberculosis.
3) SCT of the chest and abdominal organs, examination of sputum for MBT using microscopy, PCR, culture, as well as blood culture for blood culture and Widal reaction.

Task 59.

A 38-year-old woman was referred to a TB specialist for consultation. The patient has been complaining for several years of pain in the epigastric region, more in the right half, bloating, periodically loose stools, and sometimes constipation. She was treated with varying success for gastritis and colitis. At the age of 18 years she suffered from exudative pleurisy. At the age of 24 she gave birth to a girl, after which pregnancy did not occur. Over the past 2 months, he has noticed an increase in his abdomen. There is fluid in the abdominal cavity, serous fluid was obtained by puncture; laboratory examination of the puncture revealed: protein -4.5%, lymphocytes - 57%.

1) What disease can be suspected in this case?
2) Evaluate the results of the punctate study. What disease are these results typical for?
3) What studies should be ordered to verify the diagnosis?

Sample answer:

1) Abdominal tuberculosis.
2) The punctate contains a high content of protein and lymphocytes, which is characteristic of tuberculosis infection.
3) To verify the diagnosis of abdominal tuberculosis, it is necessary to prescribe a histological examination of the diagnostic material and bacteriological: cultures for MBT, PCR for the presence of MBT DNA. Detection of specific elements of tuberculous granuloma, MBT and MBT DNA make it possible to verify the diagnosis of abdominal tuberculosis.

Task 60.

A 33-year-old man underwent fluorography of the lungs upon admission to work, which revealed a round, intense shadow with a diameter of 3.5 cm with clear contours in the subclavian region on the left. Previous fluorogram three years ago, without pathology. The patient makes no complaints.

General blood test: red blood cells 4.8*1012/l, hemoglobin 130 g/l, leukocytes 4.0*109/l, E-2, P-2, S-64, L-26, M-6, ESR 7 mm/hour.

1) Name the main radiological syndrome.
2) Evaluate the complete blood count.
3) What specialists' consultations are necessary in this case?

Sample answer:

1) Round shadow syndrome.
2) General blood test results are within normal limits.
3) Consultation with a phthisiatrician and oncologist.

Task 61.

A 22-year-old man complains of a cough with scanty sputum for more than 3 months. An X-ray of the lungs revealed no pathological changes.

The result of sputum microscopy is that AFB are detected.

General blood test: red blood cells 5.1*1012/l, hemoglobin 128 g/l, leukocytes 9.2*109/l, E-2, P-8, S-64, L-20, M-6, ESR 17 mm/hour.

1) What diseases can be suspected in this case?
2) What is the most likely localization of the pathological process?
3) What additional examination needs to be performed to clarify the diagnosis?
4) Evaluate the complete blood count.

Sample answer:

1) Pulmonary tuberculosis or mycobacteriosis.
2) The pathological process can be localized both in the bronchi and in the lungs. To clarify the localization, additional examination is needed.
3) SCT of the chest organs, PCR of sputum for MBT DNA, sputum culture for MBT, bronchoscopy with collection of bronchial lavage water for culture for MBT.
4) Leukocytosis, shift of the leukocyte formula to the left, increase in ESR.

Task 62.

A 19-year-old girl, after hypothermia, had a temperature rise to 39.5ºC, severe pain in the left side, and shortness of breath. Auscultation of breathing over the left lung is not heard, percussion - dullness below the 5th rib along the middle axillary line with a characteristic upper border along the Ellis-Daumoiseau line. An X-ray of the lungs confirmed the presence of fluid in the left pleural cavity; no other changes were detected in the lungs. During puncture of the pleural cavity in the therapeutic department where the patient was hospitalized, about 600.0 yellowish viscous fluid was obtained. Laboratory examination of punctate: specific gravity – 1016, protein – 3.2%, lymphocytes – 48%.

1) What is your presumptive diagnosis?
2) What study can confirm the etiology of the pathological process?
3) What is the therapist's tactics in this case and why?

Sample answer:

1) Exudative pleurisy of unspecified etiology.
2) Cultural examination of exudate.
3) In this case, it is necessary to perform a CT scan of the chest organs, microscopy of sputum for AFB, a cultural examination for nonspecific flora and MBT, consultation with a phthisiatrician is mandatory, since in young patients there is a high probability of tuberculous etiology of exudative pleurisy.

Task 63.

Patient M., 30 years old, autoline driver. I consulted a therapist with complaints of cough with phlegm, fever, sweating, and poor appetite. Over the past 2 years, he has been in constant contact with his father, who is sick with tuberculosis and has been diagnosed with disseminated pulmonary tuberculosis with bacterial excretion. Social and living conditions are unsatisfactory. The last time I underwent fluorography was three years ago, no pathology was detected. Heredity for tuberculosis is burdened. Among the past diseases, he notes frequent acute respiratory infections and acute gastritis.

Objectively: low nutrition, pale face, peripheral lymph nodes are not enlarged. On auscultation, there are moist rales of varying sizes in the right lung in the interscapular region; on percussion, there is dullness of percussion sound in the same area, respiratory rate is 20 per minute. Heart sounds are muffled, heart rate is 88 per minute. Blood pressure 100/65 mm Hg. Art. The abdomen is soft and painless on palpation, the liver is not enlarged. Physiological functions are normal.

A clinical minimum examination for tuberculosis was carried out: sputum microscopy revealed single AFB in the field of view. Radiologically pronounced infiltration with decay in S1, S2 of the upper lobe and in S6 of the lower lobe of the right lung, foci of screening in the lower lobe of the left lung. With a diagnosis of infiltrative tuberculosis of the right lung in the phase of decay and seeding, MBT + was sent to an anti-tuberculosis dispensary.

After 2.5 months, the result of a bacteriological examination of sputum was obtained; MBT resistant to rifampicin and ethambutol were found.

1) Indicate the factors contributing to the development of tuberculosis in this patient?
2) What drugs are advisable to replace rifampicin and ethambutol after their withdrawal?
3) Is the detected resistance to anti-tuberculosis drugs primary or secondary?
4) Your recommendations for the prevention of tuberculosis in the epidemiological outbreak.

Sample answer:

1) Factors contributing to the development of tuberculosis: contact with a father with tuberculosis with a common form of tuberculosis with bacterial excretion, unsatisfactory social and living conditions, untimely fluorographic examination, frequent history of acute respiratory infections.
2) Drugs to which resistance has been identified are replaced with reserve anti-tuberculosis drugs to which sensitivity is preserved.
3) Primary drug resistance.
4) Recommendations for prevention: isolation of the patient in a hospital, final disinfection in the outbreak after hospitalization, examination of contact persons, prescribing chemoprophylaxis for them, sanitary educational work in the outbreak.

Task 64.

Patient V., 23 years old, student. He is registered at the anti-tuberculosis dispensary with a diagnosis of infiltrative tuberculosis of the upper lobe of the right lung, MBT (-). She was treated in hospital for 8 months. The treatment is effective: partial resorption of the infiltrate has been achieved, bacterial excretion has stopped. 2 years after the disease, she gave birth to a full-term healthy child. The birth proceeded without complications. On the 4th day after birth, a deterioration in health appeared: weakness, sweating at night, fever up to 39° C with chills, dry cough, severe shortness of breath.

Objectively: the patient's condition is of moderate severity. Cyanosis of lips. Peripheral lymph nodes are not enlarged. Breathing in the lungs is weakened, with isolated dry wheezing. Respiration rate 30 per minute. Heart sounds are rhythmic, pulse 110 per minute, blood pressure 100/60 mm Hg. Art. The abdomen is without features.

A plain X-ray of the lungs revealed weakly contoured shadows up to 3 mm in diameter across all pulmonary fields, and the pulmonary pattern was depleted. The roots are structural and not enlarged. The mediastinal shadow is normal, the sinuses are free.

General blood test: red blood cells 4.59*1012/l, hemoglobin 139 g/l, leukocytes 10.2*109/l, E-2, P-8, S-64, L-20, M-6, ESR 30 mm/hour.

The test with recombinant tuberculosis allergen is negative.

Acid-fast mycobacteria were not detected by one-time bacterioscopy.

1) Name the main radiological syndrome.
2) Evaluate the result of the test with the recombinant tuberculosis allergen.
3) Formulate a preliminary diagnosis.
4) List additional examination methods.
5) Decide on whether to vaccinate your child with BCG and the possibility of breastfeeding.

Sample answer:

1) Dissemination syndrome.
2) Negative anergy.
3) Acute disseminated (miliary) tuberculosis.
4) SCT of the chest organs, sputum culture examination for MBT.
5) BCG vaccination is carried out; breastfeeding is not indicated in this case.

Task 65.

A 5-year-old boy was invited to see a pediatrician after undergoing tuberculin diagnostics.

Life history: over the last year he suffered from ARVI 3 times. BCG vaccination was carried out in the maternity hospital. Dynamics of Mantoux tuberculin tests with 2 TE: 1 year – 9 mm, 2 years – 7 mm, 3 years – 6 mm, 4 years – negative, 5 years – 19 mm.

Objectively: the child's condition is satisfactory, body temperature is 37.0° C. The skin is pale, blue under the eyes. On the left shoulder there is a whitish scar, 5 mm in size. Single, pea-sized submandibular lymph nodes are palpated. Vesicular breathing in the lungs. The heart sounds are rhythmic, the pulse is 132 v/min, the liver protrudes from under the edge of the costal arch by 2 cm during palpation, the edge of the spleen is palpated.

A plain X-ray of the chest organs did not reveal focal or infiltrative shadows in the lungs. The roots are structural, not enlarged. The cardiac shadow corresponds to the age norm.
General blood test: red blood cells 3.8*1012/l, hemoglobin 120 g/l, leukocytes 8.8*109/l, E-2, P-6, S-66, L-23, M-3, ESR 18 mm/hour.

1) Formulate a preliminary diagnosis.
2) Assess the dynamics of tuberculin tests.
3) What additional examination should be prescribed for the child?
4) Decide whether it is necessary to refer the child for consultation to a phthisiopediatrician.
5) What information must be provided to the phthisiopediatrician?

Sample answer:

1) Virus of tuberculin tests. Tuberculosis intoxication?
2) Until the age of five, there is a decline in sensitivity to tuberculin - post-vaccination allergy; at the age of 5 - a change in tuberculin tests.
3) Test with recombinant tuberculosis allergen, SCT of the chest organs.
4) Consultation with a phthisiopediatrician is necessary.
5) Information on BCG vaccination, results of all immunological tests, results of fluorographic examination of family members over 15 years of age, data on contact with tuberculosis patients, data on previous allergic diseases, expert opinions on the presence of concomitant pathology, previous consultations with a phthisiatrician.

Task 66.

Patient A., 12 years old. At the age of 7 he was revaccinated with the BCG vaccine. At 8 years old Mantoux test

– 21 mm was regarded as primary MBT infection. For a year he was observed in an anti-tuberculosis dispensary and received treatment with anti-tuberculosis drugs. At the age of 9, the Mantoux test with 2 TE – 10 mm, was removed from the register. During an annual examination, the dynamics of tuberculin tests is as follows: at 10 years old - 9 mm, at 11 years old - 6 mm, at 12 years old - 14 mm. Tests with recombinant tuberculosis allergen were not carried out. There are no symptoms of intoxication.

1) Assess the dynamics of tuberculin tests.
2) What additional examination should be ordered?
3) Justify the referral of the child to a consultation with a TB specialist.

4) What information must be provided to the TB specialist?

Sample answer:

1) After treatment, there is a decline in tuberculin sensitivity over a period of up to 11 years. At the age of 12, sensitivity to tuberculin increases by 8 mm.
2) SCT of the chest organs, test with recombinant tuberculosis allergen, general blood test, general urine test.
3) Consultation with a phthisiatrician is necessary to exclude an active tuberculosis process and clarify the need for a course of specific treatment.
4) Information on BCG vaccination and revaccination, results of all immunological tests, results of fluorographic examination of family members over 15 years of age, data on contact with tuberculosis patients, data on previous allergic diseases, expert opinions on the presence of concomitant pathologies, previous consultations with a phthisiatrician.

Task 67.

Patient A., 14 years old, came to the city from a rural area for permanent residence last year. Vaccinated with BCG vaccine in the maternity hospital, revaccinated at 7 years old. The last Mantoux test with 2 TE is 12 mm. Previous tuberculin tests were negative. Tests with recombinant tuberculosis allergen were not carried out. Denies contact with tuberculosis patients. She was not registered with a dispensary and had not previously been referred to a TB specialist. He makes no complaints.

1) Evaluate the Mantoux test with 2 TE.
2) Name additional research methods necessary to clarify the diagnosis.
3) Does the child need to consult a TB doctor?

Sample answer:

1) Virus of tuberculin tests.
2) Test with recombinant tuberculosis allergen, SCT of the chest organs.
3) Consultation with a phthisiatrician is required.

Task 68.

Patient A., 67 years old. For 5 years he has been registered with a therapist for gastric ulcers and chronic pyelonephritis. The last fluorographic examination of the lungs took place 4 years ago. Denies contact with tuberculosis patients. Currently he is complaining of weakness, sweating, fever, shortness of breath, pain on the left side under the shoulder blade and blood coming out of the mouth when coughing.

Objectively: satisfactory condition, low nutrition. Peripheral lymph nodes are palpated on the right in the axillary region, up to 0.6 cm in diameter, dense, mobile, painless. The percussion sound is shortened on the right under the scapula, and medium-bubble moist rales are heard here. NPV 18 per 1 min. Heart sounds are muffled. Pulse 92 per minute, blood pressure 150/90 mm Hg. No pathology was detected from the abdominal organs.

Complete blood count: red blood cells 3.5*1012/l, hemoglobin 103 g/l, c.p. 0.95, leukocytes 6.0*109/l, E-2, P-7, S-69, L-14, M-8, ESR 60 mm/hour.

Mantoux test with 2 TE – 6 mm.

Acid-fast mycobacteria were once detected in sputum using light microscopy.

An X-ray of the lungs in S10 on the right reveals an inhomogeneous darkening of the focal structure with clearing up to 2 cm in diameter. There are weakly contoured lesions around. There are single small calcifications in the right root. The cardiac shadow is within the age norm.

1) Assess the quality of clinical observation of the patient.
2) Evaluate the Mantoux test.
3) Evaluate the complete blood count.
4) Analyze the X-ray data.
5) Formulate a preliminary diagnosis.

Sample answer:

1) The patient is included in the medical risk group for the development of tuberculosis. Such patients should undergo fluorographic examination 2 times a year.
2) The Mantoux test with 2 TE is positive.
3) In the general blood test, the number of red blood cells and hemoglobin is reduced, the leukocyte formula shifts to the left, and the ESR sharply increases.
4) On the radiograph in S10 on the right there are infiltrative changes, the decay cavity is up to two centimeters in diameter. Calcifications in the right root are a characteristic sign of previous primary tuberculosis.

5) We can assume infiltrative tuberculosis of the lower lobe of the right lung in the decay phase, MBT (+)

Task 69.

Patient M., 20 years old, nurse in the children's department. 2 weeks after the medical abortion, she felt a deterioration in her general condition: weakness, sweating, headache, fever up to 38°C, and took antipyretic drugs on her own for 2 days. During treatment, the temperature rose to 39°C, chills, a dry hacking cough, shortness of breath, hoarseness, and sore throat when swallowing appeared.

She was taken by ambulance to the infectious diseases department. The patient's general condition is serious, her behavior is restless. The skin is pale, there is a typhus-like rash in the chest and abdomen. Cyanosis of lips. Peripheral lymph nodes are not enlarged. Breathing in the lungs is vesicular, wheezing is not heard. Respiration rate - 32 per minute. Heart sounds are rhythmic, pulse 120 per minute, blood pressure 90/60 mm Hg. Art. The abdomen is soft, the liver along the edge of the costal arch is painless.

Upon admission, a plain radiograph of the lungs showed signs of increased pulmonary pattern. Control X-ray examination after 5 days: symmetrically located small-point focal shadows without signs of fusion are determined in all lung fields. The roots are not enlarged. Sinuses are free. The mediastinal shadow is within normal limits.

Complete blood count: red blood cells 3.23*1012/l, hemoglobin 78 g/l, c.p. 0.72, leukocytes 12.6*109/l, E-2, P-12, S-61, L-14, M-10, ESR 47 mm/hour.

The test with recombinant tuberculosis allergen is negative.

1) Evaluate the complete blood count.
2) Evaluate the sample with recombinant tuberculosis allergen.
3) Name the main radiological syndrome.
4) Formulate a preliminary diagnosis and justify it.
5) List additional examination methods that are necessary to clarify the diagnosis.

Sample answer:

1) A decrease in red blood cells and hemoglobin, leukocytosis, a shift in the leukocyte formula to the left, a sharp increase in ESR.
2) Negative anergy.
3) Small focal dissemination syndrome.

4) Acute disseminated (miliary) pulmonary tuberculosis, as a characteristic x-ray picture appeared in the dynamics, a serious condition due to intoxication, complaints of weakness and sweating characteristic of tuberculosis.
5) Examination of sputum and bronchial lavage using all methods (microscopy, PCR, culture) for MBT, SCT of the chest organs.

Task 70.

Patient I., 42 years old, grocery store loader. He gradually became ill after hypothermia. Low-grade fever, weakness, night sweats, severe cough with a small amount of sputum and streaks of blood, pain in the subclavian region on the right appeared. I contacted a therapist at my place of residence. After examination, he was hospitalized in the therapeutic department with suspected upper lobe right-sided pneumonia.

Objectively: the condition is satisfactory. Facial hyperemia. The percussion sound is shortened on the right under the collarbone, and medium-bubble moist rales are heard here. NPV 18 per 1 min. Heart sounds are rhythmic, pulse 90/min, blood pressure 90/60 mm Hg. The abdomen is soft, painless, the liver is not enlarged.

On a plain radiograph of the lungs on the right in the first and second segments there is inhomogeneous darkening with clearing up to 2.0 cm, below there are multiple weakly contoured shadows up to 1.0 cm in diameter. On the left is the norm. The roots are structural and not enlarged. The mediastinal shadow is not changed. Sinuses are free.

During bronchoscopy, the mucous membrane of the upper lobe bronchus on the right is hyperemic, swollen, and bleeding. Acid-fast bacilli were found in the washout from the upper lobe bronchus. In sputum analysis, fluorescent microscopy did not reveal 3-fold acid-fast mycobacteria.

Complete blood count: red blood cells 3.31*1012/l, hemoglobin 107 g/l, c.p. 0.97, leukocytes 8.0*109/l, E-2, P-3, S-73, L-18, M-4, ESR 38 mm/hour.

General urine analysis is within normal limits.

1) What disease is there reason to suspect in this case?
2) Evaluate the complete blood count.
3) Evaluate the data obtained during bronchoscopy.
4) What additional examination methods need to be carried out to verify the diagnosis?

Sample answer:

1) Infiltrative tuberculosis of the upper lobe of the right lung, complicated by tuberculosis of the right upper lobe bronchus, MBT (+).
2) Decreased red blood cells and hemoglobin, lymphopenia, increased ESR.
3) Bronchoscopy revealed inflammatory changes in the mucous membrane of the right upper lobe bronchus and acid-fast mycobacteria.
4) SCT of the chest organs, PCR of sputum for MBT DNA, cultural examination of sputum and bronchial washings for MBT, histological examination of diagnostic material obtained during bronchoscopy.

Task 71.

Patient A., 18 years old, had low-grade fever, fatigue, and irritability for a week. During the day I felt satisfactory. Currently, the temperature is 38.5°C, the condition has worsened, headaches and periodic vomiting bother me. An objective examination revealed meningeal syndrome, convergent strabismus, and smoothness of the left nasolabial fold.

1) What disease is there reason to think about in this case?
2) What data from the conditions of the problem allow us to assume tuberculosisetiology of the disease?
3) What indicators of the study of cerebrospinal fluid are characteristic of tuberculosis etiology?
4) What research methods should be prescribed?

Sample answer:

1) About meningitis.
2) Gradual development of symptoms over the course of a week, characteristic composition of the cerebrospinal fluid.
3) Increased intracranial pressure, loss of fibrin film when the cerebrospinal fluid settles, high content of lymphocytes, increased protein content, positive Pandi reaction, reduced amount of sugar and chlorides, detection of acid-fast mycobacteria.
4) SCT of the brain and chest organs, examination of cerebrospinal fluid, including cultures for MBT, PCR for MBT DNA, sputum culture for MBT, sputum PCR for MBT DNA, general blood test, general urine test

Task 72.

Teenager A., 16 years old, was referred to a pediatrician due to changes identified in the upper lobe of the right lung during fluorography at the draft board.

No complaints. The last test with recombinant tuberculosis allergen was carried out
2 years ago, the result was a 9mm papule. I did not have a consultation with a TB doctor. He had not previously been examined x-ray. For 2 years he has been registered with a gastroenterologist for gastric ulcers.

Upon objective examination: the condition is satisfactory. The skin and visible mucous membranes are clean, peripheral lymph nodes are not enlarged. No pathology was detected from the lungs or cardiovascular system. The abdomen is soft, with moderate pain in the epigastrium on palpation. On a plain X-ray of the chest organs: in S1 on the right, a few shadows up to 1.0 cm in diameter, of low intensity, with unclear outer contours are identified. On the left there are no features. The roots and shadow of the mediastinum are not changed. The sinuses are free.

Complete blood count: red blood cells 4.08*1012/l, hemoglobin 125 g/l, c.p. 0.9, leukocytes 5.0*109/l, E-1, P-4, S-71, L-20, M-4, ESR 9 mm/hour.

Test with recombinant tuberculosis allergen at 14 years old - negative, currently
– 20 mm.

Mycobacterium tuberculosis was not detected in sputum 3 times using bacterioscopy.

1) Evaluate the complete blood count.
2) Evaluate the dynamics of immunological samples.
3) What information needs to be clarified in the life history?
4) Formulate a preliminary diagnosis.
5) What additional examinations are required to clarify the diagnosis?
6) Does the patient require hospitalization?

Sample answer:

1) Complete blood count is within normal limits.
2) Virus of immunological tests.
3) It is necessary to clarify the history of contacts with tuberculosis patients.
4) Focal tuberculosis S1 of the right lung in the infiltration phase, MBT (-)
5) SCT of the chest organs, culture examination of sputum for MBT, PCR of sputum for MBT DNA.
6) Hospitalization is required if bacterial excretion is confirmed.

Task 73.

Patient S., 16 years old, 10th grade student. She was referred to the tuberculosis dispensary clinic with complaints of pain in the chest area on the right, coughing, shortness of breath when walking, weakness, and low-grade fever.

Life history: at the age of 15 years, she had short-term residential contact with a patient with active tuberculosis without bacterial excretion. BCG vaccination in the maternity hospital, revaccination in 1st grade. Lives with his parents and brother (age 2 years).

Medical history: the complaints described above appeared two weeks ago. I did not see a doctor and did not receive treatment.

Objectively: the condition is satisfactory, the skin is clean. There are two scars on the left shoulder, 5 and 6 mm. Peripheral lymph nodes are not enlarged. Upon percussion, a shortening of the pulmonary sound to the right of the 4th rib is noted, and there is weakened breathing here. NPV 16 in 1 min. Heart sounds are rhythmic, pulse 96 per minute, blood pressure 110/70 mm Hg.

On a plain radiograph of the lungs, there is a homogeneous intense darkening on the right above the diaphragm, the sinus is not differentiated. Pulmonary fields without focal, infiltrative changes. The roots are structural and not enlarged. The cardiac shadow is within normal limits.

Complete blood count: red blood cells 4.2*1012/l, hemoglobin 125 g/l, c.p. 0.89, leukocytes 9.0*109/l, E-1, P-8, S-79, L-13, M-3, ESR 22 mm/hour.

Pleural puncture: 370 ml of straw-colored, slightly opalescent fluid was removed. Specific gravity 1030, Rivalta test++, lymph - 78%, red blood cells, single mesothelial cells. Acid-fast mycobacteria were detected.

Test with recombinant tuberculosis allergen – 12 mm, lymphangitis. Previous tests are negative.

1) Evaluate the complete blood count.
2) Evaluate the result of the test with the recombinant tuberculosis allergen.
3) Analyze the result of the x-ray examination.
4) What etiology of the disease can be assumed based on the results of the study of pleural fluid?
5) Is the patient subject to registration as a bacteria excretor?
6) What additional studies are required to clarify the diagnosis?

Sample answer:

1) Leukocytosis, shift of the leukocyte formula to the left, increase in ESR.
2) Test with recombinant tuberculosis allergen hyperergic, variation of immunological tests.
3) The X-ray picture is characteristic of exudative pleurisy.
4) Considering the presence of acid-fast mycobacteria and an increased number of lymphocytes, we can assume a tuberculous etiology of exudative pleurisy.
5) The patient is not subject to registration as a bacteria excretor.

6) To confirm the tuberculosis etiology, it is necessary to perform a cultural examination of the pleural fluid for MBT, PCR of the pleural fluid for MBT DNA.

Task 74.

Patient A., 14 years old, has been complaining for a month of weakness, malaise, cough with scanty sputum, and low-grade fever. The condition worsened gradually, the temperature increased to 39°C, shortness of breath when walking and pain in the right half of the chest, aggravated by deep breathing and coughing.

History: BCG vaccination in the maternity hospital, there is a 7 mm scar, the Mantoux test with 2 TE was positive, from the age of 13 an increase in tuberculin sensitivity was noted from 10 to 16 mm. Tests with recombinant tuberculosis allergen were not carried out, and no referrals were made to a phthisiatrician for consultation. Over the past year, she suffered from ARVI 6 times.

Objectively: the condition is of moderate severity. Shortness of breath at rest up to 30 per 1 min. Cyanosis of lips. Forced position on the right side. The right half of the chest lags behind in the act of breathing. From the 2nd rib to the diaphragm on the right there is a dull pulmonary sound; upon auscultation of the lungs - sharply weakened breathing. Peripheral lymph nodes are not enlarged.

Complete blood count: red blood cells 3.31*1012/l, hemoglobin 107 g/l, c.p. 0.97, leukocytes 10.0*109/l, E-2, P-13, S-63, L-18, M-4, ESR 30 mm/hour.

Plain X-ray of the chest organs: on the right from the 2nd rib to the diaphragm - homogeneous darkening of high intensity with a concave upper border. The root is not differentiated. The mediastinal organs are sharply shifted to the left.

1) Assess the dynamics of tuberculin tests.
2) Evaluate the complete blood count.
3) Analyze the X-ray data.
4) Name additional research methods for clarification etiologydiseases.
5) Determine the place of hospitalization of this patient.

Sample answer:

1) Increase in tuberculin sensitivity over time.
2) Decrease in the number of red blood cells and hemoglobin, leukocytosis, shiftleukocyte count to the left, a sharp increase in ESR.
3) The X-ray picture is characteristic of exudative pleurisy.

4) To confirm the tuberculosis etiology, it is necessary to perform a cultural examination of the pleural fluid for MBT, PCR of the pleural fluid for MBT DNA.
5) Hospitalization in a tuberculosis hospital.

Task 75.

Patient D., 16 years old, was sent for consultation to a phthisiatrician with signs of intoxication of unknown origin.

Life history: BCG vaccination in the maternity hospital, revaccinated with BCG at the age of 7, there are 2 scars of 5 mm each on the left shoulder.

Test with recombinant tuberculosis allergen – 15 mm. Previous tests were negative.

History of the disease: fell ill 3 months ago, when he began to notice a headache, general weakness, fatigue, fever in the evenings up to 37.5° C. Examined by an endocrinologist, ENT doctor, neurologist, rheumatologist. The diagnosis remained unclear. A course of nonspecific antibacterial and desensitizing therapy was administered without clinical effect.

Objectively: the skin is clean and pale. The cervical, axillary, supraclavicular, inguinal lymph nodes are palpated; they are of dense elastic consistency, up to 0.6 cm in size, mobile, painless. Breathing in the lungs is vesicular, in the interscapular region there is shortening of the percussion pulmonary sound. NPV 18 per 1 min. Heart sounds are clear and rhythmic. Pulse 90 per minute, blood pressure 100/70 mm Hg.

Complete blood count: red blood cells 3.57*1012/l, hemoglobin 121 g/l, c.p. 1.0, leukocytes 10.0*109/l, E-2, P-12, S-58, L-20, M-8, ESR 28 mm/hour.

Survey X-ray of the chest organs: the root on the right is structureless, enlarged, with clear contours. No focal, infiltrative changes in the lungs are detected. The cardiac shadow corresponds to the age norm.

Sputum microscopy using the Ziehl-Neelsen method once - no AFB were detected.

1) Evaluate the result of the test with the recombinant tuberculosis allergen.
2) Analyze the X-ray data.
3) Provide additional information from the medical history necessary to confirm the diagnosis.
4) List additional studies necessary to clarify the diagnosis.

Sample answer:

1) The test with recombinant tuberculosis allergen is hyperergic.

2) The X-ray picture is consistent with tuberculosis
   intrathoraciclymph nodes on the right.
3) It is necessary to clarify the history of contacts with tuberculosis patients.
4) SCT of the chest organs, sputum cultures on liquid and solid media for MBT, PCR of sputum for MBT DNA.

Task 76.

Patient M., 16 years old, college student. At an appointment with a TB doctor with complaints of weakness, fever, coughing.

Life history: since the age of 10 he has been suffering from diabetes mellitus, in recent years he has had frequent ARVI. There is no heredity for tuberculosis.

History of the disease: considers himself sick for 2 weeks, when weakness appeared, temperature increased to 37.6 ° C, rare cough with a small amount of mucous sputum. He was treated by a pediatrician on an outpatient basis with a diagnosis of ARVI without effect.

Objectively: general condition is satisfactory, body temperature is 37.3° C. The skin and visible mucous membranes are clean.

On the left in the subclavian region - shortening of the percussion sound, vesicular breathing. NPV 18 per 1 min. Heart sounds are rhythmic, clear, pulse - 80 per minute, blood pressure 120/80 mm Hg/st. Peripheral lymph nodes are not enlarged. Abdominal organs without pathology.

General blood test: red blood cells 3.9*1012/l, hemoglobin 110 g/l, c.p. 0.87, leukocytes 7.4*109/l, E-2, P-2, S-71, L-23, M-2, ESR 16 mm/hour.

The test with recombinant tuberculosis allergen is 20 mm, the previous one is 12 mm. Previously, I had not been referred to a TB specialist for consultation.

Survey X-ray of the chest organs: on the right, in the area of the 1st intercostal space, a few focal shadows up to 1.0 cm in size with unclear contours are determined. The roots are not enlarged, structural, the cardiac shadow corresponds to the age norm.

1) Evaluate the sample with recombinant tuberculosis allergen.
2) Evaluate the complete blood count.
3) Analyze the plain radiograph data.
4) List the factors that contributed to the development of the disease.
5) Outline a plan for additional examination to clarify the diagnosis.

Sample answer:

1) The test with recombinant tuberculosis allergen is hyperergic. There is an increase in sensitivity.
2) Decreased levels of red blood cells and hemoglobin, increased ESR.
3) The X-ray picture corresponds to focal tuberculosis.
4) The development of the disease was facilitated by diabetes mellitus and frequent acute respiratory viral infections.
5) SCT of the chest organs, examination of sputum and bronchial washings for MBT using all methods (microscopy, culture on liquid and solid media, PCR).

Task 77.

Patient R., 16 years old, technical school student.

Life history: in childhood she suffered rheumatic myocarditis with damage to the mitral valve. There has been stable remission for 10 years. There is no heredity for tuberculosis. Meals are not regular. He lives in a communal apartment, one of his neighbors is sick with bacterial tuberculosis and is avoiding treatment.

History of the disease: 2 weeks ago there was an increase in temperature to 39° C, general weakness, shortness of breath, pain in the right half of the chest. Hospitalized in hospital.

Objectively: the condition is of moderate severity. The right half of the chest lags behind in the act of breathing. From the 4th rib and below on the right there is a dull percussion sound, breathing is sharply weakened. NPV 24 in 1 min. Heart sounds are rhythmic. The liver protrudes 3 cm from under the edge of the costal arch, painless.

Complete blood count: red blood cells 3.14*1012/l, hemoglobin 107 g/l, c.p. 1.02, leukocytes 12.8*109/l, E-2, P-16, S-63, L-16, M-3, ESR 21 mm/hour. Blood glucose - 5.5 mmol/l.

Urinalysis without pathological changes.

Triple acid-fast mycobacteria were not detected by bacterioscopy in gastric lavage waters.

Test with recombinant tuberculosis allergen 11 mm, vesicles.

Pleural puncture – 500 ml of serous opalescent fluid was removed, specific gravity –1030, Rivalta reaction +++, protein – 40.7 g/l, lymphocytes – 94%, mesothelial cells – 5, erythrocytes – 10, atypical cells, acid-fast mycobacteria, nonspecific flora were not detected, sugar – 3.0 mmol/l.

On the plain radiograph of the lungs on the right there is an area of intense homogeneous darkening from the 3rd rib to the diaphragm. Other parts of the pulmonary fields are without focal and infiltrative shadows. The right root is expanded. The mediastinal organs are shifted to the left.

1) Evaluate the complete blood count.
2) Evaluate the sample with recombinant tuberculosis allergen.
3) Analyze the plain radiograph data.
4) Formulate a preliminary diagnosis.
5) List the risk factors for developing the disease.
6) Specify additional examination methods to confirm the etiology of the disease.

Sample answer:

1) Decrease in the level of red blood cells, hemoglobin, leukocytosis, shift of the leukocyte formula to the left, increase in ESR.
2) The test with recombinant tuberculosis allergen is hyperergic.
3) The X-ray picture corresponds to exudative pleurisy.
4) Exudative pleurisy of tuberculous etiology.
5) Risk factors: contact with tuberculosis patients
   bacterial excretion,unsatisfactory living conditions, irregular meals.
6) Cultural examination for MBT of pleural fluid, sputum, bronchial lavages, SCT of the chest organs.

Task 78.

Patient S., 15 years old. She complained of weakness, poor appetite, irritability, and periodic headaches. Over the course of 6 months, an intermittent low-grade fever and a slow deterioration in general health are determined. She did not go to the doctor, she treated herself, taking paracetamol and antibiotics. Denies contact with tuberculosis patients. Previously, she was not registered at the dispensary for tuberculosis.

The general condition of the patient upon examination was satisfactory. The skin and visible mucous membranes are pale. Cervical, submandibular, axillary lymph nodes up to 1.0 cm in diameter are palpated, soft, mobile, painless, not fused to each other and surrounding tissues. In the lungs, breathing is vesicular, there are no wheezes. NPV 18 per 1 min. Heart sounds are muffled, rhythmic, pulse 90 per minute. The abdomen is soft and painless. The liver is at the edge of the costal arch. The effleurage symptom is negative on both sides. Physiological functions are normal.

Complete blood count: red blood cells 3.5*1012/l, hemoglobin 105 g/l, c.p. 0.9, leukocytes 10.6*109/l, E-2, P-6, S-67, L-18, M-7, ESR 15 mm/hour.

On a plain X-ray of the chest organs in S1-2 of the right lung there is a group of lesions without clear contours with a tendency to merge. Roots are structural. On the right are single, small, heterogeneously dense petrificates of the bronchopulmonary group of lymph nodes. The mediastinal shadow is within normal limits.

The test with recombinant tuberculosis allergen is 17 mm, the previous one is 5 mm.

1) Analyze the plain radiograph data.
2) Assess the dynamics of immunological tests over the past 2 years.
3) Make a plan for additional examination to clarify the diagnosis.
4) Decide whether you need to consult a phthisiopediatrician.

Sample answer:

1) The X-ray picture corresponds to focal pulmonary tuberculosis in the infiltration phase.
2) The test with recombinant tuberculosis allergen is hyperergic, increased sensitivity compared to the previous result.
3) SCT of the chest organs, examination of sputum and bronchial washings for MBT using all methods (microscopy, culture, PCR).
4) Consultation with a phthisiopediatrician is necessary.

Task 79.

After a medical abortion, 2 weeks later, a 19-year-old woman developed a body temperature of 39°C, a cough with sputum, and sweating. I contacted my local physician with these complaints. Objectively: the condition is of moderate severity. The skin is clear, pale, blue under the eyes. Asthenic physique. The chest is of regular shape, both halves are equally involved in the act of breathing. On percussion there is a clear pulmonary sound in the lungs, on auscultation there is vesicular breathing, there is no wheezing. RR 26 per minute, heart rate 90 per minute. Blood pressure 100/60 mm Hg. Art. The abdomen is soft and painless.

Complete blood count: red blood cells 3.9*1012/l, hemoglobin 115 g/l, c.p. 0.9, leukocytes 8.6*109/l, E-1, P-6, S-71, L-15, M-7, ESR 36 mm/hour.

General urine analysis without pathological changes.

Mantoux test with 2 TE is negative.

On a plain X-ray of the chest organs: symmetrically located small 1-2 mm focal shadows without clear contours are determined throughout all lung fields.

1) Evaluate the result of the Mantoux reaction with 2TE.
2) Name the main radiological syndrome.

3) Make a plan for additional examination.
4) Formulate a preliminary diagnosis.

Sample answer:

1) Negative anergy.
2) Dissemination syndrome.
3) SCT of the chest organs, test with recombinant tuberculosis allergen, examination of sputum and bronchial lavages for MBT by all methods (microscopy, PCR, cultures on liquid and solid media).
4) Acute disseminated (miliary) pulmonary tuberculosis.

Task 80.

In patient D., 16 years old, during a routine preventive fluorographic examination, a shadow of medium intensity without clear contours, connected by a path to the root of the lung, was revealed in S2 of the right lung. He makes no complaints. A tomogram of the mediastinum reveals an enlargement of the tracheobronchial lymph nodes on the right.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 125 g/l, c.p. 0.9, leukocytes 10.4*109/l, E-2, P-2, S-70, L-19, M-7, ESR 30 mm/hour.

General urine analysis without pathological changes.

Sputum microscopy using the Ziehl-Neelsen method did not detect double AFB.

1) Formulate a preliminary diagnosis.
2) List additional research methods necessary to clarify the diagnosis.

Sample answer:

1) Primary tuberculosis complex on the right, infiltration phase.
2) SCT of the chest organs, PCR to determine MBT DNA, cultures for MBT on liquid and solid media, test with recombinant tuberculosis allergen.

Task 81.

Patient M., 16 years old, a college student, was admitted to the clinic with complaints of weakness, fever up to 37.3°C, and a rare cough. The last fluorographic examination took place less than 1 year ago - without pathology. Considers himself sick for 20 days, was treated on an outpatient basis without improvement.

Objectively: general condition is satisfactory. The skin is clean and pale. On auscultation – vesicular breathing, no side breath sounds

are listened to. On the survey radiograph on the left in S1-2, a group of focal shadows up to 1.0 cm in size with unclear contours and low intensity is determined.

General blood test: red blood cells 4.2*1012/l, hemoglobin 130 g/l, c.p. 0.92, leukocytes 4.4*109/l, E-2, P-2, S-70, L-24, M-6, ESR 8 mm/hour.

1) Formulate a preliminary diagnosis and justify it.
2) List additional research methods necessary to clarify the diagnosis.
3) Determine where to treat this patient.

Sample answer:

1) Considering the complaints of weakness, fever up to 37.3°C, rare coughing, X-ray picture, absence of inflammatory changes in the general blood test, we can assume that the patient has focal tuberculosis S 1-2 of the left lung in the infiltration phase.
2) SCT of the chest organs, test with recombinant tuberculosis allergen, examination of sputum and bronchial lavages for MBT by all methods (microscopy, PCR, cultures on liquid and solid media).
3) If the diagnosis of tuberculosis is confirmed, the patient's place of treatment is the inpatient department of a tuberculosis hospital.

Task 82.

Patient K., 17 years old, visiting a therapist. Tuberculosis was detected during a routine fluorographic examination. He makes no complaints. Denies contact with a patient with tuberculosis. An objective examination revealed no pathological changes in the internal organs. The fluorogram in the second segment of the right lung shows a few focal shadows of low intensity without clear contours.

When examining sputum using a single fluorescent method

microscopyisolated acid-fast mycobacteria were found.

Complete blood count: red blood cells 4.7*1012/l, hemoglobin 130 g/l, c.p. 0.83, leukocytes 7.8*109/l, E-3, P-8, S-65, L-16, M-10, ESR 15 mm/hour.

1) Name an examination that will verify the diagnosis of tuberculosis.
2) The therapist's tactics in this case.

Sample answer:

1) To verify the diagnosis of tuberculosis, a cultural method is required - culture for MBT on liquid and solid media.

2) SCT of the chest organs, general blood test, general urine test, recombinant tuberculosis allergen test, consultation with a phthisiatrician.

Task 83.

Patient V., 15 years old, complains of weakness, sweating, fever up to 38°C, and chest pain. He is registered with an endocrinologist with a diagnosis of type 1 diabetes mellitus. I was treated by a pediatrician for the flu. During treatment, shortness of breath increased, and the temperature rose to 39°C.

Objectively: the skin is pale, moist, turgor is reduced. Peripheral lymph nodes are not enlarged. Percussion: dullness of pulmonary sound in the interscapular region on the right and below the angle of the scapula on the right. Auscultation: weakened vesicular breathing on the right below the angle of the scapula.

On a plain radiograph: expansion of the root on the right and homogeneous darkening up to the 6th rib in the area of the right costophrenic sinus.

Complete blood count: red blood cells 3.8*1012/l, hemoglobin 108 g/l, c.p. 0.85, leukocytes 10.0*109/l, E-1, P-7, S-68, L-17, M-7, ESR 27 mm/hour.

1) What data suggest a tuberculous etiology of the disease?
2) Name additional research methods necessary to clarify the diagnosis.
3) Formulate a preliminary diagnosis.

Sample answer:

1) Complaints of weakness, sweating, fever up to 38°C, chest pain are characteristic of tuberculosis infection, type 1 diabetes mellitus is a risk factor for tuberculosis.
2) SCT of the chest organs, ultrasound of the pleural cavities, examination of pleural fluid, sputum, bronchial lavages by all methods (microscopy, PCR, cultures on liquid and solid media) for MBT.
3) Tuberculosis of the intrathoracic lymph nodes on the right, complicated by exudative pleurisy.

Task 84.

Patient K., 16 years old, has been complaining for a week about a gradual deterioration of his condition, increased fatigue, irritability, and an increase in body temperature to 37.6°C. On the day of visiting the therapist - temperature 38.5°C, headache, repeated

vomit. From the anamnesis it is known that the patient was in contact for several months with a relative who died of tuberculosis.

An objective examination revealed meningeal syndrome,

convergentstrabismus, smoothness of the left nasolabial fold.

A plain X-ray of the lungs revealed no pathology.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 124 g/l, c.p. 0.83, leukocytes 10.0*109/l, E-1, P-5, S-68, L-20, M-6, ESR 26 mm/hour.

General urine analysis without pathological changes.

The test with recombinant tuberculosis allergen is negative.

1) What disease can be assumed in this case?
2) Does the problem contain data in favor of tuberculosis etiology?
3) Evaluate the sample with recombinant tuberculosis allergen.
4) Which specialists are needed?

Sample answer:

1) Meningitis.
2) In favor of tuberculosis etiology is the gradual onset of the disease, reliable contact with a patient with tuberculosis.
3) Negative anergy.
4) Consultation with a neurologist, phthisiatrician, infectious disease specialist.

Task 85.

After severe hypothermia, after 3 weeks, a 20-year-old woman developed severe weakness, dry cough, sweating, and her body temperature increased to 39.0°C. The patient went to the clinic at her place of residence to see a local therapist. Objectively: the condition is of moderate severity. The skin and visible mucous membranes are clean. The chest is of regular shape, both halves are equally involved in the act of breathing. With percussion in the lungs there is a clear pulmonary sound, with auscultation no wheezing is heard. NPV 26 per minute. Heart sounds are clear, rhythmic, tachycardia, heart rate 120 per minute. Blood pressure 100/60 mm Hg. Art. The abdomen is soft, painless on palpation. Physiological functions are normal.

Complete blood count: red blood cells 3.9*1012/l, hemoglobin 115 g/l, c.p. 0.9, leukocytes 8.6*109/l, E-1, P-6, S-71, L-15, M-7, ESR 32 mm/hour.

General urine analysis: color - straw, specific weight - 1020, protein 0.033 g/l, sugar - none, red blood cells - 2-5 in the visual field, leukocytes up to 10 in the visual field, squamous epithelium 2-4 in the visual field vision, oxalate+ salts.

The test with recombinant tuberculosis allergen is negative.

On a plain X-ray of the chest organs, there are symmetrically located small, 1-2 mm focal shadows across all lung fields. The sinuses are free.

1) What diagnosis is likely in this case?
2) Evaluate the sample with recombinant tuberculosis allergen.
3) Additional research methods are necessary to clarify the diagnosis.

Sample answer:

1) Acute disseminated (miliary) pulmonary tuberculosis.
2) Negative anergy.
3) SCT of the chest organs, examination of sputum, bronchial lavages for MBT using all methods (microscopy, culture method, PCR)

Task 86.

The patient is 27 years old. Over the course of 2 months, he notes an increase in temperature to subfebrile levels, weakness, weight loss, and a slight cough. The condition is satisfactory, low nutrition. Auscultation of the lungs reveals harsh breathing. On a survey radiograph, an infiltrative shadow of 3.0x4.0 cm without clear contours is determined at the level of the second segment of the right lung.

1) Name the main radiological syndrome.
2) What specialists' consultations are necessary in this case?
3) What additional studies need to be ordered to clarify the diagnosis?

Sample answer:

1) Round shadow syndrome.
2) Consultation with a phthisiatrician and oncologist.
3) SCT of the chest organs, test with recombinant tuberculosis allergen, bacteriological, cytological, histological examination of sputum, bronchial washings for atypical cells and MBT.

Task 87.

Patient 32 years old. Got acutely ill. The body temperature increased to 39°C, and a cough with mucous sputum appeared. Contact with tuberculosis patients has not been established. For 10 years he has been registered with an endocrinologist for type 1 diabetes. In the upper lobe of the right lung, a shortening of the percussion sound, weakened vesicular breathing, and isolated moist rales are detected.

A plain radiograph revealed inhomogeneous darkening in the upper lobe of the right lung, with areas of clearing noted.

1) What diseases can be suspected first?
2) What studies need to be carried out to confirm the tuberculosis etiology of the disease?

Sample answer:

1) Destructive pneumonia, infiltrative tuberculosis in the decay phase.
2) Examination of sputum and bronchial washings for MBT using all methods (microscopy, culture on liquid and solid media, PCR).

Task 88.

Patient N., 35 years old. At an appointment with a therapist, he complains of weakness, increased fatigue, periodic cough with sputum, and low-grade body temperature in the evenings. Considers himself sick for the last month. Not treated. A fluorographic examination took place 4 years ago, no pathology was detected.

Objectively: normal physique, low nutrition, pale skin and visible mucous membranes. In the lungs, upon percussion, there is a clear pulmonary sound; upon auscultation, there is vesicular breathing, no wheezing.

Test with recombinant tuberculosis allergen – 15 mm.

Single-time analysis of sputum using Ziehl-Neelsen microscopy – no AFB were detected.

1) What diagnosis can be assumed? Justify your answer.
2) Evaluate the result of the test with the recombinant tuberculosis allergen.
3) What examination should be prescribed in the general medical network?
4) Which specialist consultation is needed?

Sample answer:

1) Considering the complaints of weakness, increased fatigue, periodic cough with sputum, low-grade body temperature in the evenings, and the result of a test with recombinant tuberculosis allergen, pulmonary tuberculosis can be assumed.
2) The test with recombinant tuberculosis allergen is hyperergic.
3) Sputum microscopy using the Ziehl-Neelsen method three times, X-ray examination of the chest organs (general radiography or computed tomography), general blood test, general urinalysis.

4) Phthisiatrician consultation.

Task 89.

Patient K., 24 years old, was admitted by ambulance to the central district hospital with complaints of low-grade fever up to 37.5°C, weakness, sweating, weight loss of 6 kg, severe cough with mucopurulent sputum, hemoptysis . A plain X-ray of the chest organs revealed changes in the lungs, assessed as cavernous tuberculosis of the upper lobe of the right lung in the phase of infiltration and seeding. Sputum microscopy revealed AFB++. Hemoptysis up to 50 ml.

1) What additional research needs to be done to verify the diagnosis of tuberculosis?
2) What measures should be taken to stop hemoptysis?

Sample answer:

1) Sputum culture - culture for MBT.
2) To stop hemoptysis in a patient with tuberculosis, the optimal treatment is a combination of hemostatic drug therapy and bronchological examination to determine the source of bleeding, and if possible, followed by stopping.

Task 90.

List the common symptoms that occur with pulmonary tuberculosis.

Sample answer:

Frequent symptoms of respiratory tuberculosis are deterioration in general condition, increased body temperature, sweating, weight loss, cough, sputum, shortness of breath, chest pain, and hemoptysis.

Task 91.

What causes dry cough in pulmonary tuberculosis?

Sample answer:

A dry cough appears when the bronchus is compressed by enlarged lymph nodes, bronchial tuberculosis, displacement of mediastinal organs by a large amount of fluid in cases of exudative pleurisy.

Task 92.

What causes productive cough in pulmonary tuberculosis?

Sample answer:

A productive cough occurs when there is destruction of lung tissue, the formation of a nodulobronchial fistula, or a breakthrough of fluid or pus from the pleural cavity into the bronchial tree.

Task 93.

Describe the appearance of patients with progressive pulmonary tuberculosis – habitus phtisicus.

Sample answer:

Such patients have a lack of body weight, a blush on a pale face, shiny eyes and wide pupils, dystrophic changes in the skin, a long and narrow chest, widened intercostal spaces, an acute epigastric angle, and pterygoid scapulae.

Task 94.

After what period of time are the results of immunological tests assessed (Mantoux test, test with recombinant tuberculosis allergen)?

Sample answer:

The results are assessed 72 hours after immunological tests are performed.

Task 95.

Name the advantages of the bacterioscopic method for studying diagnostic material of tuberculosis patients.

Sample answer:

Significant advantages of the bacterioscopic method are its accessibility, cost-effectiveness, speed of obtaining results, and the ability to quickly identify the most dangerous patients in terms of epidemics.

Task 96.

What is the bacteriological (cultural) method for identifying MBT?

Sample answer:

The bacteriological (cultural) method for detecting MBT involves inoculating sputum and other pathological material on nutrient media.

Task 97.

Give a brief description of the computed tomography method.

Sample answer:

Computed tomography allows you to obtain images of transverse layers (slices) of the human body and volumetric images. It is the main method of radiological examination of all intrathoracic organs, and in particular the lungs.

Task 98.

In what cases is the ultrasound method used in phthisiatric practice?

Sample answer:

Ultrasound examination (ultrasound) in phthisiatric practice is carried out to accurately determine and control the size of peripheral lymph nodes (cervical, axillary, inguinal). Using ultrasound, you can detect fluid in the pleural cavity and select a point for puncture of the pleural cavity. Ultrasound diagnostics is important when examining patients with suspected tuberculosis of the genitourinary system, as well as for monitoring the dynamics of the process in the treatment of urogenital tuberculosis.

Task 99.

Name screening methods for mass examination of adults and children for tuberculosis infection.

Sample answer:

Fluorography of the chest organs - for adults and children over 15 years of age, mass immunodiagnosis for the child population: Mantoux test with 2TE - for children from 12 months to 7 years inclusive, test with recombinant tuberculosis allergen - for children over 7 years of age and up to 18 years of age .

Task 100.

List the indications for referring children and adolescents to a consultation with a TB doctor.

Sample answer:

Children and adolescents with suspected primary infection with tuberculosis, with increasing, hyperergic sensitivity to tuberculin, with questionable or positive reactions to the recombinant tuberculosis allergen, with clinical manifestations suspicious of tuberculosis, with changes identified during fluorography are referred for consultation to a TB doctor. chest.

PC – 6:

Closed type tasks:

Task 1. Instructions: Choose one correct answer.

The criteria for tuberculosis intoxication as a form of tuberculosis in children include:

1. functional impairment syndrome
2. local forms of primary tuberculosis
3. pulmonary changes in an infected child
4. no clinical manifestations

*Sample answer:*1. functional impairment syndrome

Task 2. Instructions: Choose one correct answer.

What is the most common pleural exudate according to the predominant cellular composition in tuberculous etiology of pleurisy?

1. neutrophilic
2. eosinophilic
3. lymphocytic
4. hemorrhagic

*Sample answer:*3. lymphocytic

Task 3. Instructions: Choose one correct answer.

Bronchopulmonary lesions in pulmonary tuberculosis are characterized by physicalchanges when:

1. percussion – local shortening of pulmonary sound, with auscultation –decreased breathing in the affected area
2. percussion – box sound, during auscultation–fine bubble wet rales
3. percussion – boxed sound; on auscultation – wheezing, harsh breathing
4. percussion - shortening of the pulmonary sound; during auscultation - weakened or bronchial breathing, fine bubble moist rales

*Sample answer:*1. percussion – local shortening of pulmonary sound during auscultation – decreased breathing in the affected area

Task 4. Instructions: Choose one correct answer.

Characteristic morphological changes in peripheral lymph nodes in tuberculosis are:

1. monocyte infiltration, epithelioid cells in cortical areas
2. Berezovsky-Sternberg cells
3. epithelioid granulomas with single Pirogov-Langhans cells, hyalinosis
4. lymphoid, epithelioid and Pirogov-Langhans giant cells, caseosis Standard answer:

4.lymphoid, epithelioid giant cells of Pirogov- Langhans caseosis

Task 5. Instructions: Choose one correct answer. The primary tuberculosis complex is:

1. damage to the intrathoracic lymph nodes and lesions in the lung tissue
2. focus in the lung, lymphangitis going to the root, and damage to regional lymph nodes
3. damage to the lymph nodes, walls of the adjacent bronchus, pneumonic focus in the lung tissue
4. a set of clinical manifestations that often occur in tuberculosis

*Sample answer:*2.focus in the lung, lymphangitis going to the root, and defeatregional lymph nodes

Task 6. Instructions: Choose one correct answer. The nature of cough in tuberculosis of the intrathoracic lymph nodes:

1. wet
2. barking
3. bitonal
4. whooping cough

*Sample answer:*3.bitonal

Task 7. Instructions: Choose one correct answer. Focal pulmonary tuberculosis is:

1. tuberculosis process of limited extent
2. tuberculosis process, characterized by a blurred clinical picture and torpid course

3. tuberculosis process, characterized by the presence of focal changes in the lungs
4. tuberculosis process, characterized by an erased clinical picture, torpid course, scanty bacterial excretion, as well as the presence of single or multiple foci in the lungs of different genesis and duration with localization in one or both lungs within one or two segments

*Sample answer:*4. tuberculosis process, characterized by a blurred clinical picture, torpid course, scanty bacterial excretion, as well as the presence of single or multiple foci in the lungs of different origins and duration with localization in one or both lungs within one or two segments

Task 8. Instructions: Choose one correct answer. With focal
tuberculosis the following are usually heard:

1. no wheezing
2. coarse rales in the upper lungs
3. crepitus in the interscapular space
4. scattered dry wheezing

*Sample answer:*1. absence of wheezing

Task 9. Instructions: Choose one correct answer.
The main morphological difference between caseous pneumonia and
optionsinfiltrative tuberculosis is:

1. large volume of damage
2. predominance of caseous necrosis
3. tendency to bronchogenic dissemination
4. damage to large bronchi

*Sample answer:*2. predominance of caseous necrosis

Task 10. Instructions: Choose one correct answer.
With infiltrative pulmonary tuberculosis, the patient has a cough:

1. with bloody sputum
2. with the release of mucous sputum
3. hacking cough
4. with putrid smelling sputum

*Sample answer:*2. with the release of mucous sputum

Task 11. Instructions: Choose one correct answer. Size of lesions
in the lungs in acute miliary tuberculosis:

1. small
2. average
3. large
4. different

*Sample answer:*1. small

Task 12. Instructions: Choose one correct answer.
Distribution of lesions in the lungs in chronic disseminated pulmonary tuberculosis:

1. uniform
2. uneven
3. group
4. any of the above

*Sample answer:*2. uneven

Task 13. Instructions: Choose one correct answer. X-ray picture
of miliary tuberculosis:

1. “millet-like” homogeneous non-confluent lesions in the upper-middle parts of the lungs, depletion of the pulmonary pattern
2. multiple focal shadows, in some places merging into small foci, increased pulmonary pattern
3. small lesions and cavities of decay
4. small foci and foci of darkening

*Sample answer:*1. “millet-like” homogeneous non-confluent lesions in the upper-middle parts of the lungs, depletion of the pulmonary pattern

Task 14. Instructions: Choose one correct answer. Pulmonary
tuberculoma is:

1. a focus of caseous necrosis larger than 1.0 cm, surrounded by a zone of specific granulation tissue
2. a focus of caseous necrosis larger than 1.0 cm, surrounded by a zone of specific and nonspecific inflammation

3. a focus of caseous necrosis larger than 1.0 cm, surrounded by a connective tissue capsule with the inclusion of cellular elements of tuberculous granuloma
4. a focus of caseous necrosis larger than 1.0 cm, surrounded by a three-layer fibrous capsule

*Sample answer:*3. a focus of caseous necrosis larger than 1.0 cm, surrounded by a connective tissue capsule with the inclusion of cellular elements of tuberculous granuloma

Task 15. Instructions: Choose one correct answer. Tuberculoma has to be differentiated:

1. with a peripheral tumor
2. with aspergilloma
3. with retention cyst
4. all answers are correct

*Sample answer:*4. all answers are correct

Task 16. Instructions: Choose one correct answer. The development of tuberculoma is most often preceded by

1. tuberculosis of intrathoracic lymph nodes
2. disseminated tuberculosis
3. infiltrative tuberculosis
4. focal tuberculosis

*Sample answer:*3. infiltrative tuberculosis

Task 17. Instructions: Choose one correct answer. In cavernous pulmonary tuberculosis, bacterial excretion:

1. massive and permanent
2. meager and fickle
3. absent
4. no pattern emerges

*Sample answer:*2. meager and inconsistent

Task 18. Instructions: Choose one correct answer.
In fibrous-cavernous pulmonary tuberculosis, clinical signs of the disease are:

1. may be missing
2. occur, they are more pronounced during the period of exacerbation of the disease
3. are always observed, but are more pronounced during the period of exacerbation
4. always sharply expressed, during the period of exacerbation - sharp decompensation of respiratory functions

*Sample answer:*3. always observed, but more pronounced during exacerbation

Task 19. Instructions: Choose one correct answer.

Caverns with fibrous-cavernous pulmonary tuberculosis on an x-ray have the following signs, except:

1. significant thickness and unevenness of its walls
2. uneven internal contour
3. stringy and unclear outer contour
4. thinness and uniformity of its thickness throughout

*Sample answer:*4. thin-walled and uniform thickness throughout

Task 20. Instructions: Choose one correct answer.

A ring-shaped shadow in the lungs with a path to the root and polymorphic foci around is characteristic:

1. for lung cyst
2. for lung tumor
3. for tuberculosis cavity
4. for acute abscess

*Sample answer:*3. for tuberculous cavity

Task 21. Instructions: Choose several correct answers.

The following symptoms can be classified as intoxication syndrome:

1. weakness
2. cough
3. hemoptysis
4. increase in body temperature
5. sweating

*Sample answer:*1, 4, 5

Task 22. Instructions: Choose several correct answers.

What research methods are considered a mandatory diagnostic minimum:

1. sputum cultures for MBT on solid media
2. targeted radiography
3. plain radiography of the chest organs
4. sputum microscopy using the Ziehl-Neelsen method
5. clinical blood test

*Sample answer:*3, 4, 5

Task 23. Instructions: Choose several correct answers.

Uncomplicated primary tuberculosis complex is characterized by the following radiological signs:

1. expansion and blurring of the structure of the shadow of the root of the lung
2. a homogeneous shadow that covers a segment of the lung with its volumetric reduction; a homogeneous area of darkening of the lung with unclear contours
3. a group of soft lesions in one segment of the lung
4. a group of soft foci in different segments of the lung
5. inflammatory path to the root

*Sample answer:*1, 3, 5

Task 24. Instructions: Choose several correct answers.

"Small form" of intrathoracic lymphatic tuberculosisnodes characterizedthe following radiological signs:

1. the root shadow is usually located
2. root shadow expanded
3. the root shadow is not expanded
4. regular root shadow
5. the root shadow is deformed
6. outer contour of shadow roots lumpy
7. the structure of the root shadow is blurred
8. root shadow is structural

*Sample answer:*1, 3, 4, 7

Task 25. Instructions: Establish a correspondence between clinical shapetuberculosis and x-ray picture

1. Focal tuberculosis	A. Limited rounded darkening with

	clear contours, more than 1.0 cm in diameter
2. Tuberculoma	B. Darkening of the entire or most of the lobe of the lung with areas of clearing of irregular shape with unclear contours; in other parts of the lungs there are foci of bronchogenic seeding
3. Caseous pneumonia	B. Several ring-shaped shadows of irregular shape, displacement of the mediastinal organs towards the lesion, polymorphic shadows of bronchogenic contamination
4. Fibrous-cavernous tuberculosis	D. A small group of focal shadows up to 1.0 cm in diameter, low intensity, roundedshapes, with unclear contours

*Sample answer:*1 – G, 2 – A, 3 – B, 4 – C

Open type tasks: Task 26.

Primary tuberculosis develops in people with a weakened body's defense response as a result of _____infection with virulent MBT.

*Sample answer:*first

Task 27.

Tuberculosis intoxication, tuberculosis in the intrathoracic lymph nodes, primary tuberculosis complex – these are the main clinical forms _____tuberculosis.

*Sample answer:*primary Task 28.

About possible tuberculosis_____evidenced by a persistent dry cough.

*Sample answer:*bronchus

Task 29.

Persistent symptoms of intoxication, chest pain, dry cough, as well as the appearance of signs of respiratory failure suggest a violation of bronchial obstruction with the development__.

*Sample answer:*atelectasis

Task 30.

Decay cavities with thin walls located in the upper lobes of both lungs, often symmetrically, with the absence of perifocal infiltration and edema of surrounding tissues, are called_____caverns.

*Sample answer:*stamped or spectacled

Task 31.

The radiological sign of disseminated pulmonary tuberculosis is _____dissemination.

*Sample answer:*focal

Task 32.

X-ray picture_____ – localization of infiltrate in interlobar fissure, the shape of such an infiltrate is close to triangular, the upper boundary is vague, and the lower one is quite clear. The apex of the triangle is directed toward the root of the lung, and the base is directed outward.

*Sample answer:*pericissurita

Task 33.

A tuberculous cavity is a cavity formed in the area of tuberculous lesions, delimited from the adjacent lung tissue_____wall.

*Sample answer:*three-layer

Task 34.

Patient V., 35 years old, a livestock specialist, was taken by ambulance to the Central District Hospital with complaints of increased body temperature to 39°C, shortness of breath with slight physical exertion, dry cough, moderate pain in the chest on the right, and general weakness.

From the anamnesis: he considered himself sick for five months, when after hypothermia the body temperature increased and shortness of breath appeared, which gradually increased. I didn't see a doctor, I didn't get treatment. A more thorough history taking revealed that the patient began to gradually lose weight about 2 months ago, became very tired, and considered this to be the consequences of increased workload.

Objectively: normal physique, low nutrition, pale skin, normal-shaped chest, the right half of the chest is somewhat behind in the act of breathing, heart sounds are rhythmic, muffled, heart boundaries are normal, heart rate 96 per minute, blood pressure 100/70 mm. rt. Art. Percussion: on the left is a pulmonary sound, on the right - dullness, on auscultation in the lungs on the left - vesicular breathing, on the right - breathing is weakened, there is no wheezing, respiratory rate is 28 per minute. The abdomen is soft, painless on palpation, the liver and spleen are not enlarged.
In the general blood test: red blood cells 4.5*1012/l, hemoglobin 121 g/l, leukocytes 9.9*109/l, e-2%, p-12%, s-62%, l-18%, m -6%, ESR – 31 mm/h.
On a survey radiograph: on the right, from the level of the second rib to the dome of the diaphragm, an intense homogeneous darkening is determined, inseparable from the shadow of the thickened costal pleura, the mediastinal organs are shifted to the left, on the left - without pathology.
Pleural punctures were performed twice, respectively, 2200 ml and 400 ml of straw-yellow, transparent fluid were removed, the pleural contents were analyzed: protein 50 g/l, moderate cellular cytosis, lymphocytes 96%, neutrophils 4%, mycobacteria, no atypical cells were found.
Skin test with recombinant tuberculosis allergen - 10 mm, in the center of the papule - a vesicle.

1) Formulate a diagnosis according to ICD-10.
2) What diseases should be differentiated first?
3) Based on clinical and radiological data, what etiology of the process can we think about? Why?

Sample answer:

1) R09.1 Right-sided exudative pleurisy of unspecified etiology.
2) Differential diagnosis should be carried out between tuberculous pleurisy, pleurisy of nonspecific etiology, pleural mesothelioma, metastatic pleurisy, cardiogenic effusion.
3) With the greatest probability, one can think of a tuberculous etiology of pleurisy; this diagnosis is supported by anamnesis data, gradual development of the disease, lymphocytic cytosis of pleural fluid, hyperergic test with recombinant tuberculosis allergen.

Task 35.

A 12-year-old boy became acutely ill.

Medical history: Temperature increased to 38°C, cough and pain in the right side appeared. During examination on the right, below the angle of the scapula and along the axillary lines, a shortening of the percussion sound was noted, and in the same area there was some weakening of breathing. He refused hospitalization; a two-week course of nonspecific antibacterial therapy for suspected pneumonia had no effect. Due to deterioration of his condition, worsening cough and manifestation of shortness of breath, he was sent to a therapeutic hospital.

Objectively: the skin is clean. Cervical, subclavian, axillary lymph nodes measuring 0.5 - 1.0 cm with a dense elastic consistency are palpated. Below the angle of the scapula on the right there is dullness of the pulmonary sound; breathing in this area is not carried out.

Complete blood count: red blood cells 3.5*1012/l, hemoglobin 110 g/l, c.p. 0.94, leukocytes 12.0*109/l, E-1, P-13, S-63, L-16, M-7, ESR 38 mm/hour.

X-ray: on the right, in the lower outer part of the chest from the IV rib to the diaphragm, a widespread darkening of medium intensity is determined, homogeneous with the upper oblique - inner border. The right root is dilated, the lumen of the main bronchus is not determined. The outer contours of the right root are unclear.

1) Formulate the diagnosis, indicate the ICD-10 code.
2) What data suggest a tuberculous etiology of the disease?
3) What examination methods should be prescribed to clarify the diagnosis?

Sample answer:

1) A16.3, A16.5 Tuberculosis of the intrathoracic lymph nodes on the right in the infiltration phase, complicated by right-sided exudative pleurisy, MBT (-).
2) The lack of positive dynamics during treatment, complaints, although not specific, are characteristic of tuberculosis infection. In children, adolescents and young patients, exudative pleurisy, according to statistical data, is very often of tuberculous etiology.
3) To clarify the diagnosis, you need to prescribe: a skin test with the recombinant tuberculosis allergen (or alternative tests in vitro), CT scan of the chest, PCR, microscopic examination and culture of sputum on liquid and solid media for the office twice before treatment, ultrasound of the pleural cavity, pleural puncture with the study of pleural fluid for MBT using microscopy and culture methods.

Task 36.

A 13-year-old boy was sent to an anti-tuberculosis dispensary with intoxication syndrome of unknown origin.

History of illness: Ill for about 3 months. ago, when headache, weakness, fever, fatigue appeared. He was examined by a rheumatologist, otolaryngologist, nephrologist, and endocrinologist, but the diagnosis remained unclear. The therapist conducted a 2-month course of nonspecific antibacterial and desensitizing therapy for an infectious-allergic condition, without effect. Complaints of constant low-grade fever, weakness and increased fatigue persisted. Revaccinated with BCG at 7 years old - there is a 4 mm scar.

Objectively: the skin is clean and pale. Lymph nodes (cervical, axillary and inguinal) are palpated. They are densely elastic, 0.4–0.6 cm in size. A shortening of the percussion pulmonary sound in the paravertebral zones was revealed.

Complete blood count: red blood cells 4.2*1012/l, hemoglobin 110 g/l, c.p. 0.79, leukocytes 10.6*109/l, E-1, P-10, S-44, L-43, M-2, ESR 28 mm/hour.

A plain X-ray of the chest organs revealed an enlargement of the left root of the lung due to damage to the intrathoracic lymph nodes.

The result of the test with recombinant tuberculosis allergen is 10 mm. Previous tests were negative.

1) Evaluate the result of the test with the recombinant tuberculosis allergen.
2) Formulate the diagnosis, indicate the ICD-10 code.
3) What examination methods should be prescribed to clarify the diagnosis?

Sample answer:

1) "Turn" of immunological tests.
2) A16.3 Tuberculosis of the intrathoracic lymph nodes on the right in the infiltration phase, MBT (-).
3) To clarify the diagnosis, it is necessary to prescribe SCT of the chest organs, PCR, microscopic examination and culture of sputum on liquid and solid media for MBT twice before starting treatment.

Task 37.

Patient D., 3 years old, was admitted to the children's dispensary department of the anti-tuberculosis dispensary for examination. No complaints received.

From the anamnesis it was revealed that the child was born full-term, from the first pregnancy, and was bottle-fed. Vaccinated with BCG-M in the maternity hospital. Contact for tuberculosis with a father with disseminated tuberculosis. Gets sick often

colds, a year ago he suffered from right-sided pneumonia. I did not receive any preventive treatment for the exposure.

Objectively: condition is satisfactory, body temperature 36.7°C. Skin unchanged. Single peripheral lymph nodes are palpated: anterior and posterior cervical, up to 0.5 - 0.7 cm, soft elastic consistency, mobile. Vesicular breathing in the lungs. Heart sounds are loud and rhythmic. The abdomen is soft and painless. On the left shoulder, in the upper third, there is a post-vaccination scar - 3 mm.

For the first time a positive Mantoux test with 2TE - 15mm at 3 years.

Complete blood count: red blood cells 4.9*1012/l; hemoglobin 139 g/l; c.p. 0.85, leukocytes 10.8*109/l; E-0; P-1; S-39; Lf-52; M-8; ESR-7 mm/hour.

On the radiograph: on the left in the S3 projection there is a focal shadow without clear contours against the background of an enhanced pulmonary pattern, a wide path to the root, the root is expanded, structureless, enlarged lymph nodes of the bronchopulmonary group on the left.

1) Formulate the diagnosis, indicate the ICD-10 code.
2) What examination methods should be performed to confirm the diagnosis?
3) List the diseases that should be differentially diagnosed.

Sample answer:

1) A16.7 Primary tuberculosis complex on the left, infiltration stage, MBT(-).
2) Necessary examination: skin test with recombinant tuberculosis allergen (or alternative tests in vitro), SCT of the chest, PCR, microscopic examination and culture of sputum on liquid and solid media (or alternative material - pharyngeal smear, gastric lavage) for MBT twice before starting treatment.
3) Community-acquired pneumonia, Pneumocystis pneumonia.

Task 38.

Patient Yu., 7 years old, was admitted to the dispensary for examination. She did not make any complaints upon receipt. From the anamnesis it was revealed that the child was born full-term and was vaccinated with BCG-M in the maternity hospital. She did not suffer from infectious diseases. Parents deny contact with tuberculosis.

Objectively: normosthenic physique, low nutrition, skin and visible mucous membranes are clean. Dense, painless, mobile, up to 1.0 cm in size, submandibular, cervical, supraclavicular, and axillary lymph nodes are palpated. In the lungs

vesicular breathing, heart sounds are loud and rhythmic. The abdomen is soft and painless. There is a 5 mm post-vaccination scar on the left shoulder.

Results of tuberculin tests: at 1 year – 9 mm, at 2 years – 7 mm, at 3 years – 6 mm, at 4 years – 4 mm, at 5 years – negative, at 6 years – negative, at 7 years – 10 mm.

Complete blood count: red blood cells 3.5*1012/l, hemoglobin 118 g/l, c.p. 1.0, leukocytes 5.5*109/l, E-10, P-2, S-60, L-26, M-2, ESR 18 mm/hour.

On a plain radiograph: pulmonary fields without focal infiltrative changes. On the left, the root is expanded due to an increase in the bronchopulmonary group of lymph nodes.

1) Assess the dynamics of tuberculin tests.
2) Formulate the diagnosis, indicate the ICD-10 code.
3) What additional examination methods are needed to confirm the diagnosis?
4) List the diseases that should be differentially diagnosed.

Sample answer:

1) There is a decline in tuberculin sensitivity from 1 year to 5 years, at 7 years - "turn" of tuberculin tests.
2) A16.3 Tuberculosis of the intrathoracic lymph nodes on the left in the infiltration phase, MBT(-).
3) Necessary examination: skin test with recombinant tuberculosis allergen (or alternative tests in vitro), SCT of the chest, PCR, microscopic examination and culture of sputum on liquid and solid media (or alternative material - pharyngeal smear, gastric lavage) for MBT twice before starting treatment.
4) Lymphogranulomatosis, sarcoidosis stage I.

Task 39.

A 14-year-old boy moved to the city from a rural area for permanent residence. He was sent to the anti-tuberculosis dispensary due to hypersensitivity to tuberculin, with complaints of poor appetite, fatigue, headache, sweating. Results of tuberculin tests (from medical documentation): at 12 years old - 8 mm, at 13 years old - 11 mm, at 14 years old - 15 mm.

At the age of 11, he had a short-term stay with a patient with active tuberculosis with bacterial excretion. Currently, the temperature is low-grade, the skin is pale,

The occipital, subclavian, axillary, and inguinal lymph nodes are palpated. They are dense, 0.3–0.8 cm in size, painless, and mobile.

Complete blood count: red blood cells 4.2*1012/l, hemoglobin 125 g/l, c.p. 0.89, leukocytes 9.8*109/l, E-2, P-9, S-65, L-22, M-2, ESR 18 mm/hour.

X-ray examination of the chest organs: no pathological changes were detected in the lungs.

1) On what basis can tuberculosis be suspected?
2) Assess the dynamics of tuberculin tests.
3) Formulate a clinical diagnosis, indicate the ICD-10 code.
4) What additional studies are required to clarify the diagnosis?

Sample answer:

1) Tuberculosis can be suspected based on the following data: contact with a patient with active tuberculosis with bacterial excretion, increased sensitivity to tuberculin, complaints characteristic of tuberculosis, examination data.
2) Tuberculin tests are positive; sensitivity to tuberculin increases over three years.
3) A16.7 Tuberculosis intoxication in children and adolescents.
4) Test with recombinant tuberculosis allergen (or alternative tests in vitro), SCT of the chest organs, examination of sputum, bronchial lavages for MBT by all methods (microscopy, PCR, culture on liquid and solid media) twice before the start of treatment, consultation with specialists to exclude diseases occurring with intoxication syndrome.

Task 40.

Boy S., 10 years old, has contact with a patient with active tuberculosis with bacterial excretion. Vaccinated with BCG in the maternity hospital and revaccinated at 7 years old, there are no post-vaccination scars. Got acutely ill. The temperature rose to 38.0°C, a cough, general weakness, and loss of appetite appeared.

X-ray of the lungs revealed small monomorphic focal shadows with unclear contours, approximately the same size across all lung fields.

1) What diagnosis is most likely in this case? Please provide ICD-10 code.
2) What additional studies need to be carried out to clarify the diagnosis?

Sample answer:

1) A19.0 Acute disseminated (miliary) pulmonary tuberculosis, MBT (-)

2) SCT of the chest organs, test with recombinant tuberculosis allergen (or alternative in vitro tests), examination of sputum, bronchial lavage water for MBT by all methods (microscopy, PCR, culture on liquid and solid media) twice before the start of treatment.

Task 41.

Patient P., 14 years old, after hypothermia (drowning in an ice hole), became acutely ill, the temperature rose to 38.0°C, headache, weakness, dry cough, abdominal pain, and unstable stool appeared.

There was a complete lack of appetite, severe adynamia, and weakness. Delivered by the team

An ambulance to the infectious diseases department, where a preliminary diagnosis was made - typhoid fever.

On examination: the general condition is moderate, the skin is clean and moist. Peripheral lymph nodes are not enlarged. In the lungs, breathing is vesicular, there are no wheezes, respiratory rate is 22 per minute. Heart sounds are loud, rhythmic, heart rate 95 per minute. The abdomen is soft on palpation, moderately painful along the small intestine.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 130 g/l, c.p. 0.87, leukocytes 8.8*109/l, E-2, P-8, S-66, L-18, M-6, ESR 24 mm/hour.

General urine analysis: color - straw, specific weight - 1020, protein 0.033 g/l, sugar - none, red blood cells - single in the visual field, leukocytes up to 6 - 8 in the visual field, squamous epithelium 2-3 in the visual field vision, oxalate salts++.

A plain radiograph showed no strengthening of the pulmonary pattern, no focal or infiltrative changes.

No positive dynamics were noted during the treatment. A week later, a control radiograph is prescribed: small, symmetrically located focal shadows are determined throughout all lung fields.

1) Which specialists should be consulted and why?
2) What tests should be ordered to exclude the diagnosis of typhoid fever?
3) What additional studies are required to clarify the diagnosis of tuberculosis?
4) Formulate the diagnosis, indicate the ICD-10 code.
5) Tactics of an infectious disease doctor in case of confirmation of the diagnosis of tuberculosis?

Sample answer:

1) Consultation with a phthisiatrician, taking into account X-ray data, and a gastroenterologist, since the patient complains of abdominal pain and unstable stool.

2) Blood test for blood culture and Vidal reaction.
3) SCT of the chest organs, examination of sputum, bronchial lavage using all methods for MBT (microscopy, PCR, cultures on liquid and solid media).
4) A19.0 Acute disseminated (miliary) pulmonary tuberculosis, MBT (-)
5) Transfer of the patient to the inpatient TB dispensary, final disinfection in the box where the patient was.

Task 42.

The patient is 27 years old, lives with his parents in a separate two-room apartment. HIV infection was detected 2 years ago, the infectious disease specialist does not observe it. Has been using injection drugs for 5 years. I have not undergone fluorography for 7 years. Over the past 4 months, I have been concerned about periodic increases in body temperature and cough with a small amount of mucous sputum. Was not examined, was not treated. He was taken to the hospital by ambulance due to the release of a significant amount of red blood when coughing. Objectively: shortness of breath at rest. Temperature 39.8°C.

Percussion - a sharp shortening of sound on the right, auscultation - breathing is practically not audible on the right, scattered dry rales on the left. Heart rate – 140 per minute, accent of the second tone over the pulmonary artery.

A survey radiograph reveals a total darkening of the right pulmonary field with a few small (up to 1.5 cm in diameter) areas of clearing in the upper lobe; in the lower lobe of the left lung there are a few focal shadows of medium size.

For 2 days he was in the emergency room, treated with broad-spectrum antibiotics and hemostatic therapy.

On the 3rd day, acid-fast mycobacteria were detected in sputum analysis using fluorescent microscopy.

1) What diagnosis can be assumed in this case? Please provide ICD-10 code.
2) Does the patient have risk factors for developing tuberculosis?
3) Determine where the patient will be treated.
4) What additional studies need to be carried out to clarify the diagnosis?
5) What anti-epidemic measures need to be carried out in the ward after the patient is transferred to the inpatient tuberculosis dispensary?

Sample answer:

1) A15.0 Caseous pneumonia of the right lung in the phase of disintegration and seeding, MBT (+). Complications: hemoptysis, pulmonary heart failure.

2) Risk factors contributing to the development of tuberculosis include HIV infection and drug use.
3) Inpatient tuberculosis dispensary.
4) SCT of the chest organs, a test with a recombinant tuberculosis allergen (or alternative in vitro tests), examination of sputum, bronchial lavages for MBT using PCR methods, cultures on liquid and solid media twice before the start of specific therapy.
5) Final disinfection.

Task 43.

Girl 10 years old. At an appointment with a pediatrician with complaints of fever up to 38°C, weakness, malaise, difficulty breathing, a feeling of heaviness in the left side.

History of illness: Considers himself sick for a month. First there was pain in the left half of the chest, worsening with breathing. After 3 weeks, the temperature increased to 38°C, weakness and malaise appeared. The mother gave the child antipyretics, which brought short-term relief. After 3 days, a feeling of heaviness appeared in the left chest, shortness of breath, and a slight dry cough.

Hospitalized in the pulmonology department.

Life history: Child from the 3rd pregnancy, second birth. She was born at term with a weight of 3700, height – 53 cm. She grew and developed normally. Vaccinated according to plan. She rarely got colds. She suffered from acute bronchitis at the age of 4, mumps at the age of 6, and has had biliary dyskinesia since the age of 7. BCG vaccination was carried out in the maternity hospital, revaccination at 7 years old - scars of 4 and 6 mm.

Reaction to the Mantoux test with 2TE PPD-L: 1 year – papule 9mm, 2 years – papule 7mm, 3 years – papule 4mm, 4 years – hyperemia 10mm, 5 years – hyperemia 6mm, 6 years – negative, 7 years – negative ., 8 years old – papule 11mm, 9 years old – papule 10mm, 10 years old – papule 17mm.

Previously, she was not registered with a TB doctor. The family lives in a 3-room comfortable apartment. Material and living conditions are good. The parents were examined fluorographically and are healthy.

Objectively: the girl’s condition is of moderate severity. The skin is pale, mucous membranes are clean. The cervical, submandibular, supraclavicular, axillary, and inguinal lymph nodes are palpable, enlarged to 1.0 cm, painless, mobile, soft-elastic consistency. The chest is of the correct shape, the left half lags behind when breathing. NPV – 20 per 1 min. Percussion: pulmonary sound on the right, dullness on the left

subscapular region, along the mid-axillary and midclavicular lines to the IV intercostal space. In these same areas, breathing is weakened. Heart sounds are muffled, heart rate is 108 per minute. The abdomen is soft, painless on palpation. Physiological functions are normal.

Complete blood count: red blood cells 3.7*1012/l, hemoglobin 105 g/l, c.p. 1.0, leukocytes 9.0*109/l, E-1, P-9, S-55, L-20, M-15, ESR 28 mm/hour.

General urine analysis without pathological changes.

Test with recombinant tuberculosis allergen – 16mm.

Survey X-ray of the chest organs: to the left of the diaphragm to the IV rib there is an intense homogeneous darkening in a concave blurred upper contour. No pathological changes were found in the lung tissue and roots of the lungs. The mediastinum is slightly shifted to the right.

1) Evaluate the dynamics of tuberculin tests, a test with recombinant tuberculosis allergen.
2) Evaluate the complete blood count.
3) Make a preliminary diagnosis, justify it, indicate the ICD-10 code.
4) What additional studies are required to clarify the etiology of the disease?

Sample answer:

1) The decline of sensitivity to tuberculin in dynamics from 1 year to 7 years, then at 8 and 9 years - post-vaccination allergy to revaccination, at 10 years - a change in tuberculin tests.
2) Decrease in the number of red blood cells and hemoglobin, leukocytosis, shift of the leukocyte formula to the left, monocytosis, increase in ESR.
3) A16.5 Exudative pleurisy of tuberculous etiology. Tuberculosis etiology can be assumed based on the results of immunological tests, examination data (enlargement of several groups of peripheral lymph nodes, painless, mobile)
4) Study of pleural fluid, sputum, bronchial lavage water for MBT using all methods (microscopy, PCR, culture on liquid and solid media), SCT of the chest organs.

Task 44.

Patient N., 35 years old. Upon admission, she complained of periodic cough with sputum, low-grade body temperature in the evenings. Considers himself sick for

last week. Not treated. Regarding the complaints, she contacted a therapist and underwent a fluorographic examination, which revealed pathology. Previous fluorogram
3 years ago, without pathology. From the anamnesis it was found that the patient often suffers from colds. Contact with tuberculosis patients has not been established.Objectively: correct physique, poor nutrition, skin visiblemucous membranes are pale, clean. In the lungs, upon percussion - clear pulmonary sound,
Auscultation - vesicular breathing. Heart sounds are clear and rhythmic.
General blood test: red blood cells 4.4*1012/l, hemoglobin 128 g/l, c.p. 0.88, leukocytes 7.2*109/l, E-1, P-8, S-64, L-24, M-3, ESR 40 mm/hour.
On a plain X-ray of the chest organs: on the right, in the upper lobe, there are polymorphic foci, part of a confluent heterogeneous structure, with areas of destruction, a "path" to the root. On the left in S 2 there are dropout centers.
Mantoux test with 2 TE -15mm.
Single-time analysis of sputum using light microscopy - no AFB detected.

1) What diagnosis can be made in this case? Please provide ICD-10 code.
2) Evaluate the Mantoux test.
3) What additional studies need to be carried out to clarify the diagnosis?

Sample answer:

1) A16.0 Infiltrative tuberculosis of the upper lobe of the right lung in the phase of disintegration and seeding, MBT (-).
2) The Mantoux test is positive.
3) SCT of the chest organs, test with recombinant tuberculosis allergen, sputum examination for MBT (microscopy, PCR, culture on liquid and solid media) twice by all methods before treatment.

Task 45.

Patient K., 34 years old. She did not make any complaints upon receipt. During a preventive fluorographic examination at work, a pathology was identified and he was referred for consultation to a phthisiatrician. Denies contact with tuberculosis patients.
Objectively: correct physique, satisfactory nutrition. The skin and visible mucous membranes are of normal color and moisture. Peripheral lymph nodes are not enlarged. On percussion, there is a clear pulmonary sound in the lungs, and on auscultation there is vesicular breathing. Heart sounds are clear and rhythmic.
Complete blood count: red blood cells 5.0*1012/l, hemoglobin 130 g/l, c.p. 0.8, leukocytes 6.9*109/l, E-1, P-5, S-66, L-20, M-8, ESR 28 mm/hour.

On a plain X-ray of the chest organs on the right in S2, against the background of limited fibrosis, low-intensity polymorphic foci are determined, a “path” to the root. On the left is the norm.

Mantoux test with 2 TE-13mm.

Sputum analysis using fluorescent microscopy - no AFB detected.

1) What disease can be suspected? Please provide ICD-10 code.
2) What disease should be differentially diagnosed first?
3) Evaluate the Mantoux test with 2TE.
4) What additional studies are required to clarify the diagnosis?

Sample answer:

1) A16.0 Focal tuberculosis S2 of the right lung in the infiltration phase, MBT (-).
2) With focal pneumonia.
3) The Mantoux test is positive.
4) SCT of the chest organs, test with recombinant tuberculosis allergen, examination of sputum and bronchial washings for MBT (microscopy, PCR, culture on liquid and solid media) twice by all methods before treatment.

Task 46.

Patient N., 23 years old, a student, was admitted to the therapeutic department of the central district hospital with complaints of weakness, dry cough, poor appetite, and an increase in temperature in the evenings to 37.2-37.5°C. She considers herself sick for 2 months when she felt weakness and periodic fever. Twice during this period of time she suffered from ARVI. I went to the doctor, and during the examination, leukocytosis was noted in the blood. An X-ray of the chest organs revealed no changes in the lungs. The condition worsened sharply, I felt severe pain in the subscapular region on the left, increasing with inspiration, and the temperature rose to 38.0°C. Sent for fluorography, infiltrative changes were identified. A diagnosis of pleuropneumonia was made. Treatment with broad-spectrum antibiotics

– no effect. The attending physician suggested a tuberculous etiology of the disease.The patient was referred to the regional tuberculosis dispensary

Forconducting additional examination and clarifying the diagnosis of tuberculosis.

From the anamnesis: notes pneumonia suffered in childhood, and chronic tonsillitis since the age of 16. Has a 4 year old child.

General condition is satisfactory. The patient is of normal build and has low nutrition. The skin is pale. In the lungs - in the lower parts on the left, the percussion sound is shortened, breathing is weakened. NPV 18 per 1 min. Pulse - 90 per 1 min. BP-110/70 mm Hg. No pathology was detected from other organs.

Complete blood count: red blood cells 4.1*1012/l, hemoglobin 124 g/l, c.p. 0.9, leukocytes 6.1*109/l, E-1, P-3, S-71, L-19, M-6, ESR 22 mm/hour.

General urine analysis - without any features.

On a plain X-ray of the chest organs: on the left in S6 and S 10 there is a heterogeneous infiltration of the lung tissue without clear contours, many destructions up to 1.5 cm in diameter, merging with the root of the lung.

Sputum analysis: 3-fold bacterioscopic examination did not find any AFB, but using the luminescent method, 5-10 AFB were detected in the field of view.

Mantoux test with 2 TE - papule 15 mm.

1) Make a preliminary diagnosis, indicate the ICD-10 code.
2) Evaluate the Mantoux test with 2TE.
3) What additional studies are required to clarify the diagnosis?

Sample answer:

1) A15.0 Infiltrative tuberculosis of the lower lobe of the left lung in the decay phase, MBT (+)
2) The Mantoux test with 2TE is positive.
3) SCT of the chest organs, test with recombinant tuberculosis allergen, examination of sputum and bronchial lavage water for MBT using PCR and culture on liquid and solid media twice before the start of specific treatment.

Task 47.

Patient K., 26 years old, was examined fluorographically upon applying for a job. On the fluorogram in S 1-2 of the left lung, an infiltrative shadow without clear contours, a heterogeneous structure, which has a connection with the root of the lung, is noted.

1) What specialist consultations are needed in this case?
2) What disease and why should you rule out first?
3) What data needs to be clarified to make a preliminary diagnosis?
4) What tests should the patient undergo?

Sample answer:

1) Consultation with a therapist, pulmonologist, phthisiatrician.

2) First of all, it is necessary to exclude tuberculosis, since it is a socially significant disease.
3) It is necessary to clarify the presence of complaints (weakness, sweating, cough, shortness of breath, etc.), collect anamnesis (past tuberculosis, presence of tuberculosis in the family and blood relatives, contacts with tuberculosis patients, presence of risk factors for tuberculosis).
4) SCT of the chest organs, test with recombinant tuberculosis allergen, examination of sputum, bronchial washings for MBT twice before the start of treatment by all methods (microscopy, culture on liquid and solid media, PCR), bacteriological examination of sputum for nonspecific flora, general blood test, biochemical blood test, general urine test.

Task 48.

Patient P., 45 years old, contacted her local physician with complaints of weakness, shortness of breath, low-grade fever, dry cough, sweating, decreased appetite, and poor sleep. I haven't had a fluorogram for 5 years. The doctor ordered an examination: a general blood test, a sputum test for nonspecific flora and sensitivity to antibiotics, and a plain chest x-ray.

1) What disease can be assumed in this case?
2) What anamnesis data needs to be clarified?
3) What additional examination methods will help clarify the diagnosis?

Sample answer:

1) Pulmonary tuberculosis.
2) It is necessary to clarify information about past tuberculosis, the presence of tuberculosis in the family and among blood relatives, contacts with tuberculosis patients, and the presence of risk factors for tuberculosis.
3) SCT of the chest organs, test with recombinant tuberculosis allergen, examination of sputum, bronchial washings for MBT twice before the start of treatment by all methods (microscopy, cultures on liquid and solid media).

Task 49.

Patient K., 25 years old, visited a therapist with complaints of cough with sputum, fever up to 38.0°C, weakness, malaise, pain in the chest on the right. Considers himself sick for 2 weeks when the temperature rises

to 38.5°C, a cough with sputum appeared. I treated myself without effect (I did not take antibiotics).

Objectively: normosthenic build, low nutrition, pale skin, peripheral lymph nodes are not enlarged. In the lungs, upon percussion, shortening of the percussion sound on the right, auscultation there is bronchial breathing, moist rales. Heart sounds are clear and rhythmic.

Complete blood count: red blood cells 4.4*1012/l, hemoglobin 120 g/l, c.p. 0.8, leukocytes 10.0*109/l, E-2, P-8, S-65, L-20, M-5, ESR 20 mm/hour.

Test with recombinant tuberculosis allergen – 9 mm.

A plain X-ray of the chest organs shows heterogeneous infiltration of the lung tissue in the upper lobe of the right lung.

The result of sputum microscopy using the Ziehl-Neelsen method once - no AFB were detected.

1) What diseases should be differentiated first?
2) Does the problem contain data that allows one to suspect tuberculosis?
3) What additional examination methods will help clarify the diagnosis?

Sample answer:

1) Nonspecific pneumonia and pulmonary tuberculosis.
2) Yes, there is: positive test result with recombinant tuberculosis allergen, complaints suspicious for tuberculosis (cough, weakness, malaise, fever, chest pain)
3) SCT of the chest organs, examination of sputum, bronchial washings for MBT twice before the start of treatment using all methods (microscopy, cultures on liquid and solid media).

Task 50.

Patient A., with active pulmonary tuberculosis and massive bacterial excretion, gave birth to a child weighing 3100 g, who cried immediately. During pregnancy, the woman was registered with an obstetrician-gynecologist and a phthisiatrician and received all the necessary treatment. After birth, the child is separated from the mother. Is on artificial feeding. On examination: the child is 4 days old. Weight – 3000 g, satisfactory condition, temperature 36.6°C. Objectively: there are no changes in organs and systems.

1) What are your arrangements for vaccinating your child with the BCG vaccine?

2) Tactics against the mother?
3) Tactics against a child?

Sample answer:

1) The child must be vaccinated with the BCG vaccine.
2) The woman should be transferred to a tuberculosis hospital for additional examination and treatment.
3) The child can be discharged home if there are no active tuberculosis patients in the family.

Task 51.

In patient D., 67 years old, an X-ray of the right lung, in a direct projection, in S4 revealed a darkening of the lung tissue of a round shape with a diameter of 3 cm, with a path to the root.

1) Name the radiological syndrome.
2) What pathology can be suspected?
3) What information does the therapist need to clarify?
4) Which specialists are needed?
5) What additional examination methods should be prescribed?

Formaking a clinical diagnosis?

Sample answer:

1) Round shadow syndrome.
2) Lung cancer, pulmonary tuberculosis.
3) It is necessary to clarify complaints, collect anamnesis (information about tuberculosis in the past, the presence of tuberculosis in the family and blood relatives, contacts with patients with tuberculosis, the presence of risk factors for tuberculosis, as well as the presence of risk factors for the occurrence of a tumor: living in areas with a high content of industrial emissions , presence of bad habits, presence of cancer pathology in blood relatives)
4) Consultation with an oncologist and phthisiatrician.
5) SCT of the chest organs, examination of sputum, bronchial lavage for MBT and atypical cells.

Task 52.

A patient with suspected pulmonary tuberculosis is scheduled for examination in the general medical network.

1) What examination methods will be prescribed?

Sample answer:

1) Mandatory diagnostic minimum: general blood test, general urinalysis, plain radiography of the chest organs, sputum microscopy using the Ziehl-Neelsen method for AFB three times, immunological tests.

Task 53.

Patient K., 17 years old, consulted a doctor with complaints of weakness, malaise, a feeling of heaviness in the right side, a temperature of up to 39.0°C, and a dry cough. After the examination, a diagnosis was made: right-sided exudative pleurisy.

1) Which changeswill be seen by the doctor during an objective examination and physicalexamination?
2) Is there any reason to suspect tuberculous etiology? exudativepleurisy in this case?
3) What examination should be ordered to clarify the etiology of pleurisy?

Sample answer:

1) When examining the patient, one can detect a lag in the right half of the chest in the act of breathing, smoothness of the intercostal spaces; on palpation, vocal tremor is weakened below the angle of the scapula on the right; percussion in this area is determined by a dull percussion sound with a characteristic upper border along the Ellis-Daumoiso line; auscultation - significantly weakened vesicular breathing or its absence, no adverse respiratory sounds, bronchophony is weakened.
2) Yes, there is – the patient's young age.
3) Examination of pleural fluid, sputum, bronchial lavage water for MBT using all methods (microscopy, PCR, culture on liquid and solid media), a test with recombinant tuberculosis allergen or alternative in vitro tests.

Task 54.

Patient R., 20 years old, has no complaints. However, the fluorogram revealed focal shadows in S2 of the right lung of a polymorphic nature with unclear contours.

1) Analyze the x-ray picture.
2) Make a preliminary diagnosis, indicate the ICD-10 code.
3) List additional examination methods that will help clarify the diagnosis?

Sample answer:

1) The X-ray picture is characteristic of an active tuberculosis process.
2) A16.0 focal tuberculosis S2 of the right lung in the infiltration phase, MBT (-)
3) SCT of the chest organs, examination of sputum, bronchial lavage water for MBT twice before the start of treatment using all methods (microscopy, culture on liquid and solid media), a test with recombinant tuberculosis allergen or alternative in vitro tests.

Task 55.

Patient E., 61 years old. Upon admission to the hospital, complaints of a dry cough, a rise in temperature to 37.2-37.3 ° C, and weakness. Considers himself sick for the last year. Denies contact with tuberculosis patients.

Objectively: normosthenic physique, low nutrition. The skin and visible mucous membranes are pale and clean. Peripheral lymph nodes are not enlarged. With percussion in the lungs there is a clear pulmonary sound, auscultation - hard breathing. Heart sounds are clear and rhythmic.

Complete blood count: red blood cells 3.9*1012/l, hemoglobin 106 g/l, c.p. 0.8, leukocytes 9.4*109/l, E-1, P-12, S-69, L-13, M-5, ESR 22 mm/hour.

Single-time analysis of sputum using light microscopy - AFB 1-3 were detected in the field of view.

Mantoux test with 2 TE – 7mm.

On a plain X-ray of the chest organs: on the right in S1-2, an area of infiltration is identified, a cavity up to 3.0 cm in diameter. In the lower lobe of the left lung there are foci of elimination, the sinuses are free.

1) Make a preliminary diagnosis, indicate the ICD-10 code.
2) Evaluate the Mantoux test with 2TE.
3) What additional research needs to be done?

Sample answer:

1) A 15.0 Cavernous tuberculosis S1-2 of the right lung in the phase of infiltration and seeding, MBT (+)
2) The Mantoux test with 2 TE is positive.

3) SCT of the chest organs, examination of sputum, bronchial lavage water for MBT twice before the start of treatment using PCR methods, culture on liquid and solid media, a test with recombinant tuberculosis allergen or alternative in vitro tests.

Task 56.

Patient M., 40 years old, upon admission to the hospital complained of severe weakness, sweating at night, cough with purulent sputum, shortness of breath with slight physical exertion, increased body temperature to 38.5°C, lack of appetite, lost 10 kg over Last year. According to him, he had not previously suffered from tuberculosis, and had contact with tuberculosis patients in places of detention. He was released from the colony three years ago, did not undergo fluorography, and did not contact a phthisiatrician.

On examination: the general condition is of moderate severity. Temperature 37.8°C. The skin is pale. L/s, accessible palpation, not enlarged, painless, mobile. Percussion: dullness of pulmonary sound over the right parts of the chest. Auscultation: hard breathing, moist rales of various sizes in the upper parts of the right lung. RR = 20 per minute, heart rate = Ps = 86 per minute. Blood pressure 120/70 mm Hg. Art., Sp O2

- 98%. The abdomen is soft and painless on palpation in all parts. The edge of the liver is at the level of the costal arch, painless on palpation and percussion, the stool is regular, formed, without pathological impurities. The symptom of “tapping” in the lumbar region is negative on both sides. Urination is free and painless. There is no peripheral edema.

When examining sputum using light microscopy, large quantities of AFB were detected.

General blood test: Hb 145 g/l, er.4.34*1012/l, color. pok. 1.0 leuk. 9.48*109/l, pal. – 7, seg.

– 38, eoz. – 6, lymph. – 43, mon. – 6, ESR – 24 mm/hour.

General urine analysis: cloudy transparency, yellow color, pH 6.0, rel. density 1025, protein - 0.15 g/l, epithelium - 1-3, leukocytes - 0-3, erythrocytes - 1-2 units, cylinders - none X-ray: subtotal infiltration of lung tissue is determined in the right lung, large cavities in S6 and S2, many medium and small cavities with an infiltrated wall throughout the right lung, foci and foci of screening in S1-2 of the left lung.

1) Formulate the diagnosis, indicate the ICD-10 code.
2) Justify the diagnosis.

3) What additional research methods should be carried out in this case?

Sample answer:

1) A15.0 Fibrous-cavernous tuberculosis of the right lung in the phase of infiltration and seeding, MBT (+)
2) This diagnosis can be made based on the presence of reliable contact with patients with tuberculosis, characteristic complaints and x-ray pictures, and detection of AFB in sputum.
3) SCT of the chest organs, fibrobronchoscopy, PCR and culture of sputum and bronchial lavages on liquid and solid media for MBT with determination of drug sensitivity.

Task 57.

Patient K., 36 years old, was delivered to the regional tuberculosis hospital by an ambulance team from an appointment at the regional anti-tuberculosis dispensary, where the patient went due to deterioration in health: the appearance of weakness, persistent cough with the release of copious purulent sputum streaked with blood, loss of 12 kg of body weight during the last year, the appearance of severe shortness of breath with little physical activity, periodic increases in body temperature to 37.4-37.6°C.

From the anamnesis it is known that 2 years ago the patient consulted a therapist with complaints of severe weakness and cough with sputum for several months. He was sent for fluorography, changes were detected in the upper lobe of the right lung. Consultation with a phthisiatrician is recommended. After an additional examination, the diagnosis was established: “Infiltrative tuberculosis of the upper lobe of the right lung in the decay phase, MBT (+)”; treatment was prescribed according to I RCT, intensive phase for 150 doses. For a controlled course of chemotherapy, he was hospitalized in a specialized department, where he received treatment for 3 months. As a result of treatment, positive dynamics were achieved in the form of significant clinical improvement, cessation of bacterial excretion, partial resorption of infiltrative changes, and reduction in the size of the decay cavity. Then the patient voluntarily left the hospital and did not appear for examination or receive medications for treatment on an outpatient basis. He continued to work by profession as a truck driver.

On examination: the general condition is of moderate severity. Temperature 36.8 °C. The skin is pale. Peripheral lymph nodes, accessible to palpation, are not enlarged, painless, mobile. Percussion: dullness of pulmonary sound in the upper parts of the right lung. Auscultation: heard in the area of dullness

bronchial breathing, fine moist rales. Resting respiratory rate = 20 per minute, heart rate = Ps = 107 per minute. Heart sounds are muffled, the accent of the second tone is over the pulmonary artery. Blood pressure 110/70 mm Hg. Art., Sp O2 - 98%. The abdomen is soft and painless on palpation in all parts. The edge of the liver is at the level of the costal arch, painless on palpation and percussion, the stool is regular, formed, without pathological impurities. Symptom
"Tapping" in the lumbar region, negative on both sides. Urination is free and painless. There is no peripheral edema.

When examining sputum using light microscopy, no AFB were detected. The result of fluorescent microscopy of sputum is 5 AFB.

PCR of sputum - MBT DNA was detected, high concentration, resistance to isoniazid and rifampicin was detected.

Complete blood count: red blood cells 4.00*1012/l, hemoglobin 138 g/l, color. pok. 1.0 leukocytes 11.48*109/l, pal. – 7, seg. – 38, eoz. – 6, lymph. – 43, mon. – 6, ESR – 32 mm/hour.

General urine analysis: incomplete transparency, straw-yellow color, pH 5.0, rel. density 1015, protein - no, epithelium - 1-2, leukocytes - 0-1, erythrocytes - no, cylinders - no

The test with recombinant tuberculosis allergen is negative.

On a plain X-ray of the chest organs: the pulmonary pattern is enriched and deformed. In the right upper pulmonary field there is a ring-shaped clearing of irregular shape with walls 6.0-7.0 mm thick, dimensions 3.5*4.0 cm, soft focal shadows around the clearing, in places merging into foci. An outflow path can be traced from the clearing to the root of the lung. The right root is pulled up. Pleuroapical overlaps are noted on the right. On the left in the lower lobe there is a group of soft focal shadows.

1) Formulate the diagnosis, indicate the ICD-10 code.
2) Justify this diagnosis.
3) Explain why the patient has a negative test result with the recombinant tuberculosis allergen?
4) List the possible complications of this disease.

Sample answer:

1) A15.0 Fibrous-cavernous tuberculosis of the upper lobe of the right lung in the phase of infiltration and seeding, MBT (+) with multidrug resistance to isoniazid and rifampicin

2) This diagnosis can be made based on a history of tuberculosis, characteristic complaints, x-ray pictures, positive results of fluorescent microscopy and PCR.
3) A negative test result with a recombinant tuberculosis allergen can be explained by a state of immunosuppression, inhibition of the cellular component of immunity due to a long-term tuberculosis process.
4) Pulmonary heart failure, pulmonary hemorrhage, spontaneous pneumothorax, amyloidosis of internal organs, renal failure.

Task 58.

Patient A, 46 years old, has been suffering from tuberculosis for 12 years. He was not treated regularly and repeatedly interrupted chemotherapy courses. Over the past 2 years, he has been avoiding examination and treatment, which he explains by his good health, absence of complaints and satisfactory performance. While undergoing a medical examination to apply for a job, changes were detected on the fluorogram, and therefore he was referred for consultation to a phthisiatrician.

On examination: general condition is satisfactory. Temperature 36.6°C. The skin is of normal color. Regional lymph nodes are not enlarged. A positive thymus symptom G.R. is determined. Rubinstein. Percussion: dullness of pulmonary sound in the upper parts of the right lung. Auscultation: hard breathing is heard, no wheezing. Resting respiratory rate = 18 per minute, heart rate = Ps = 82 per minute. Heart sounds are muffled and rhythmic. Blood pressure 120/80 mm Hg. Art., Sp O2 - 98%. The abdomen is soft and painless on palpation in all parts. The edge of the liver is at the level of the costal arch, painless on palpation and percussion, the stool is regular, formed, without pathological impurities. The symptom of “tapping” in the lumbar region is negative on both sides. Urination is free and painless. There is no peripheral edema.

When examining sputum using light microscopy, no AFB were detected. The result of culture using the VASTES method is positive.

General blood test: Hb 126 g/l, er.4.1*1012/l, color. pok. 1.0 leuk. 5.44*109/l, pal. – 4, seg. – 62, eoz. – 2, lymph. – 24, mon. – 8, ESR – 36 mm/hour. General urine analysis is within normal limits.

A test with recombinant tuberculosis allergen is negative. X-ray: in the upper lobe of the right lung a thick-walled cavity measuring 4.0*3.5 cm with the presence of perifocal inflammation is determined. The upper share is reduced by

fibrosis account. There are foci of contamination in both lungs. The mediastinal shadow is shifted to the right.

1) Formulate the diagnosis, indicate the ICD-10 code.
2) Justify this diagnosis.
3) Explain why the patient has a negative test result with the recombinant tuberculosis allergen?
4) List the possible complications of this disease.

Sample answer:

1) A15.0 Fibrous-cavernous tuberculosis of the upper lobe of the right lung in the phase of infiltration and seeding, MBT (+)
2) This diagnosis can be made on the basis of a history of tuberculosis, characteristic complaints, x-ray pictures, and a positive culture result using the VASTES method.
3) A negative test result with a recombinant tuberculosis allergen can be explained by a state of immunosuppression, inhibition of the cellular component of immunity due to a long-term tuberculosis process.
4) Pulmonary heart failure, pulmonary hemorrhage, spontaneous pneumothorax, amyloidosis of internal organs, renal failure.

Task 59.

Patient K., 53 years old, was admitted to the hospital with complaints of weakness, loss of appetite, sweating, low-grade fever, and cough with sputum. For the first time I fell ill with pulmonary tuberculosis 5 years ago, the diagnosis was made: “Infiltrative tuberculosis S1-2 of the left lung in the phase of disintegration and seeding, MBT (+), MDR.” He systematically violated the treatment regimen, abused alcohol, and did not regularly take anti-tuberculosis drugs.

When examining sputum using light microscopy, 10 AFB per field of view. General blood test: red blood cells 5.2*1012/l, hemoglobin 148 g/l, color. pok. 0.85 leukocytes 5.44*109/l, pal. – 4, seg. – 63, eoz. – 3, lymph. – 22, mon. – 8, ESR – 32 mm/hour.

General urine analysis: incomplete transparency, straw-yellow color, pH 5.5, rel. density 1020, protein - no, epithelium - 2-3, leukocytes - 0-2, erythrocytes - no, cylinders - no

The result of the test with recombinant tuberculosis allergen is negative. X-ray: in both lungs the pulmonary pattern is fibrously changed. In the upper lobe of the left lung there is a cavity with a diameter of up to 6.0 cm with thick fibrous walls and a zone

perifocal inflammation, and several cavities are noted in the upper lobe of the right lung.

1) Make a diagnosis, indicate the ICD-10 code.
2) Explain why the patient has a negative test result with the recombinant tuberculosis allergen?
3) What additional research methods should be carried out in this case? Justify your answer.
4) List the possible complications of this disease.

Sample answer:

1) A15.0 Fibrous-cavernous tuberculosis of the upper lobes of both lungs in the phase of infiltration and seeding, MBT (+)
2) A negative test result with a recombinant tuberculosis allergen can be explained by a state of immunosuppression, inhibition of the cellular component of immunity due to a long-term tuberculosis process.
3) PCR and sputum cultures for MBT and sensitivity, since the patient constantly interrupted treatment, the spectrum of MBT resistance may expand, which requires correction of the chemotherapy regimen. Fiberoptic bronchoscopy to assess the condition of the bronchial mucosa; with fibrocavernous tuberculosis, bronchial tuberculosis often develops.
4) Pulmonary heart failure, pulmonary hemorrhage, spontaneous pneumothorax, amyloidosis of internal organs, renal failure.

Task 60.

A 19-year-old girl, after hypothermia, had a temperature rise to 39.5ºC, severe pain in the left side, and shortness of breath. She was hospitalized by the emergency medical team in the therapeutic department.

On examination: temperature 39.4°C, serious condition. The left half of the chest lags behind in the act of breathing, the intercostal spaces are bulged. Heart rate=Ps=102 per minute. Blood pressure 100/70 mm Hg. Art. Auscultation of breathing over the left lung is not heard, percussion - dullness below the 5th rib along the middle axillary line with a characteristic upper border along the Ellis-Daumoiseau line. An X-ray of the lungs confirmed the presence of fluid in the left pleural cavity; no other changes were detected in the lungs. During puncture of the pleural cavity, about 600.0 ml of yellowish viscous liquid was obtained. Laboratory examination of punctate: specific gravity – 1016, protein – 3.2%, lymphocytes – 65%, moderately positive Rivalta reaction.

General blood test: red blood cells 4.34*1012/l, hemoglobin 125 g/l, color. pok. 0.86 leukocytes 9.4*109/l, pal. – 8, seg. – 38, eoz. – 12, lymph. – 43, mon. – 6, ESR – 24 mm/hour.

1) Make a preliminary diagnosis, indicate the ICD-10 code.
2) Does the problem contain data that suggests a tuberculous etiology of the disease?
3) What examination is necessary to clarify the diagnosis?

Sample answer:

1) R09.1 Exudative pleurisy of unspecified etiology.
2) Tuberculosis etiology can be assumed based on the presence of a large number of lymphocytes in the pleural fluid, the absence of pathological changes in the lung tissue and the young age of the patient.
3) Examination of pleural fluid, sputum, bronchial lavage water for MBT using all methods (microscopy, PCR, culture on liquid and solid media), a test with recombinant tuberculosis allergen or alternative in vitro tests.

Task 61.

Patient K., 22 years old, consulted a therapist with complaints of an increase in temperature to 38°C, pain in the right side, which intensifies with coughing and deep inhalation. He considered himself sick for a week, but continued to work. In the last 2 days, he has noted a decrease in pain and an increase in shortness of breath. X-ray examination revealed the presence of fluid in the pleural cavity. A pleural puncture was performed. Serous fluid was obtained with a specific gravity of 1040, protein 55 g/l, lymphocytes 92%, glucose 1.5 mmol/l, no AFB or atypical cells were detected.

1) Make a preliminary diagnosis, indicate the ICD-10 code.
2) What etiology of the disease can be assumed based on the results of the study of pleural fluid?
3) What anamnesis data needs to be clarified?
4) What examination is necessary to clarify the diagnosis?

Sample answer:

1) R09.1 Exudative pleurisy of unspecified etiology.
2) Tuberculosis etiology.
3) Presence of risk factors for the development of tuberculosis (social, medical), history of tuberculosis, presence of tuberculosis in the family or blood relatives, contacts with tuberculosis patients.

4) Examination of pleural fluid, sputum, bronchial lavage water for MBT using all methods (microscopy, PCR, culture on liquid and solid media), a test with recombinant tuberculosis allergen or alternative in vitro tests, SCT of the chest organs.

Task 62.

Patient B., 16 years old, has been complaining for a month of weakness, malaise, cough with moderate amounts of mucous sputum, and periodic increases in temperature to 37.2-37.4°C. The condition worsened gradually, the temperature increased to 38.5°C, shortness of breath when walking and pain in the left half of the chest, which intensified with a deep breath or cough.

From the anamnesis it is known that he was vaccinated with BCG in the maternity hospital, there is a scar of 6 mm. Data on the results of immunological tests have been lost. According to him, he was not previously registered with a TB doctor.

On examination: the condition is moderate. Dyspnea at rest up to 28/1 min. Cyanosis of lips. Forced position on the left side. The left half of the chest lags behind in the act of breathing. From the 2nd rib to the diaphragm on the left there is a dull pulmonary sound; upon auscultation of the lungs, sharply weakened breathing is heard. Peripheral lymph nodes accessible to palpation are not enlarged.

General blood test: Hb 110 g/l, er.3.7*1012/l, color. pok. 0.89, leuk. 10.2*109/l, pal. – 11, seg. – 64, eoz. – 2, lymph. – 19, mon. – 4, ESR – 32 mm/hour.

Test with recombinant tuberculosis allergen – 20 mm.

Plain X-ray of the chest organs: on the left from the 2nd rib to the diaphragm, a homogeneous darkening of high intensity with a concave upper border is determined. The root is not differentiated. The mediastinal organs are sharply shifted to the right.

1) Make a preliminary diagnosis, indicate the ICD-10 code.
2) Evaluate the result of the test with the recombinant tuberculosis allergen.
3) What anamnesis data needs to be clarified?
4) What examination is necessary to clarify the diagnosis?

Sample answer:

1) R09.1 Exudative pleurisy of unspecified etiology.
2) The test with recombinant tuberculosis allergen is hyperergic.
3) Presence of risk factors for the development of tuberculosis (social, medical), history of tuberculosis, presence of tuberculosis in the family or blood relatives, contacts with tuberculosis patients.

4) Examination of pleural fluid, sputum, bronchial lavage water for MBT by all methods (microscopy, PCR, culture on liquid and solid media) and for nonspecific flora, test with recombinant tuberculosis allergen or alternative tests in vitro, SCT of the chest organs.

Task 63.

Patient P., 56 years old, consulted a phthisiatrician with complaints of increased shortness of breath, cough with scanty sputum and streaks of blood. He has been suffering from pulmonary tuberculosis for 8 years. An objective examination reveals deformation of the chest and narrowing of the intercostal spaces on the left. Percussion over the left lung reveals dullness of the pulmonary sound, auscultation reveals weakened breathing, against which dry wheezing can be heard.

X-ray: the left lung is reduced in volume due to fibrotic-cirrhotic changes, there are multiple petrification in both lungs, the mediastinal organs are shifted to the left.

When examining sputum using light and fluorescence microscopy, no AFB was detected; cultures on solid and liquid media were negative.

Clinical blood and urine tests, biochemical blood test without pathological changes.

The test with recombinant tuberculosis allergen is negative.

1) Make a diagnosis, indicate the ICD-10 code.
2) Explain why the patient has a negative test result with the recombinant tuberculosis allergen?
3) What additional research methods should be carried out in this case?
4) Does the patient need chemotherapy now?

Sample answer:

1) A16.0 Cirrhotic tuberculosis of the left lung in the infiltration phase, MBT (-)
2) A negative test result with a recombinant tuberculosis allergen can be explained by a state of immunosuppression, inhibition of the cellular component of immunity due to a long-term tuberculosis process.
3) SCT of the chest organs, repeat sputum examinations for MBT, fibrobronchoscopy with examination of bronchial lavage water for MBT. If culture results are positive, perform sensitivity tests to anti-tuberculosis drugs.

4) Chemotherapy is necessary because the patient has signs of active tuberculosis.

Task 64.

Patient E., 50 years old, has been suffering from pulmonary tuberculosis for 18 years. From the anamnesis it is known that the treatment was not regular. The patient interrupted chemotherapy courses several times. The last bacterial isolation was registered 5 years ago - sputum culture on solid media - 10 CFU, resistance to isoniazid, rifampicin, ethambutol. Invited for another examination. At the appointment, he complains of weakness, shortness of breath when walking and normal physical activity, swelling of the legs and feet.

Objectively: general condition is satisfactory. The skin is pale. Peripheral lymph nodes accessible to palpation are not enlarged. A positive thymus symptom G.R. is determined. Rubinstein. On percussion, dullness of pulmonary sound in the upper parts of the right lung. On auscultation, weakened breathing is heard over the right lung, there are no wheezes. Respiratory rate at rest is 20 per minute. Heart sounds are muffled, rhythmic, the emphasis of the second tone is on the pulmonary artery. Blood pressure 100/70 mm Hg. Heart rate 86 per minute, pulse 86 per minute. The abdomen is normal, soft and painless on palpation. The liver at the edge of the costal arch is painless and soft on palpation. Gallbladder symptoms are negative. The spleen and kidneys are not palpable. Urination is free and painless. The stool is regular, formed, without pathological impurities. Pasty feet.

When examining sputum using light and fluorescence microscopy, no AFB was detected; cultures on solid and liquid media were negative. Sputum PCR is negative.

The result of the test with recombinant tuberculosis allergen is negative.

General blood test: red blood cells 3.4*1012/l, hemoglobin 100 g/l, color. pok. 0.88 leukocytes 5.48*109/l, pal. – 1, seg. – 38, eoz. – 12, lymph. – 43, mon. – 6, ESR – 32 mm/hour.

On SCT of the OGK, the upper lobe of the right lung is reduced in volume due to cirrhosis with bronchiectasis. Along the remaining length, mainly on the right, there is pneumosclerosis, lesions and foci. No areas of decay are identified. The dynamics show progression of cirrhosis, slight resorption of lesions.

1) Make a diagnosis, indicate the ICD-10 code.
2) What specialized specialists are required to consult in this case?
3) Explain why the patient has a negative test result with the recombinant tuberculosis allergen?

Sample answer:

1) A16.0 Cirrhotic tuberculosis of the upper lobe of the right lung, MBT (-), MDR
2) Consultation with a cardiologist, pulmonologist.
3) A negative test result with a recombinant tuberculosis allergen can be explained by a state of immunosuppression, inhibition of the cellular component of immunity due to a long-term tuberculosis process.

Task 65.

A 33-year-old man underwent fluorography of the lungs upon admission to work, which revealed a round, intense shadow with a diameter of 3.5 cm with clear contours in the subclavian region on the left. No complaints. Previously, I had not undergone fluorography for more than three years.

Objectively: general condition is satisfactory. The skin is of normal color and moisture. Peripheral lymph nodes accessible to palpation are not enlarged. On percussion there is a clear pulmonary sound over both pulmonary fields. On auscultation, vesicular breathing is heard, there are no wheezes. NPV 16 per minute. Heart sounds are muffled and rhythmic. Blood pressure 120/80 mm Hg, heart rate 76 per minute, pulse 76 per minute. The abdomen is soft and painless on palpation. The liver is at the edge of the costal arch. Urination is free and painless. The stool is regular, formed, without pathological impurities. There is no swelling.

General blood test: red blood cells 4.20*1012/l, hemoglobin 136 g/l, color. pok. 0.94 leukocytes 4.64*109/l, pal. – 3, seg. – 55, eoz. – 2, lymph. – 34, mon. – 6, ESR – 6 mm/hour.

General urine analysis is within normal limits.

1) Name the radiological syndrome.
2) What diseases should be excluded first?
3) What anamnesis data needs to be clarified?
4) What should be the doctor’s tactics in this case?

Sample answer:

1) Round shadow syndrome.
2) Lung cancer, pulmonary tuberculosis.
3) It is necessary to clarify complaints, collect anamnesis (information about tuberculosis in the past, the presence of tuberculosis in the family and blood relatives, contacts with tuberculosis patients, the presence of risk factors for tuberculosis, as well as the presence of risk factors for the occurrence of a tumor: living in areas with a high concentration of industrial

emissions, the presence of bad habits, the presence of cancer in blood relatives)

4) Refer the patient for SCT of the chest organs, examination of sputum, bronchial lavage for MBT and atypical cells, consultation with an oncologist and phthisiatrician.

Task 66.

Patient P., 45 years old, was diagnosed with pulmonary tuberculosis for the first time in MLS in 2003. He received treatment in a prison hospital. After his release from the colony, he turned to the local phthisiatrician. Complains of weakness, shortness of breath when walking quickly, and loss of appetite.

On examination: normosthenic physique, low nutrition. The skin is pale. Lymph nodes accessible to palpation are not enlarged. On percussion: dullness of pulmonary sound in the upper parts of both lungs. On auscultation: breathing is harsh, there are no wheezes. NPV 18 per minute. Heart sounds are muffled and rhythmic. Blood pressure 120/80 mm Hg. Heart rate 80 per minute, pulse 80 per minute. The abdomen is soft and painless on palpation. Liver +3 cm from under the edge of the costal arch.

When examining sputum using light and fluorescent microscopy, no AFB were detected.

Sputum PCR is negative.

Complete blood count: red blood cells 4.34*1012/l, hemoglobin 145 g/l, color. pok. 1.0 leukocytes 9.48*109/l, pal. – 5, seg. – 42, eoz. – 4, lymph. – 41, mon. – 8, ESR – 24 mm/hour.

General urine analysis without pathological changes.

Test with recombinant tuberculosis allergen – 12 mm.

On a plain X-ray of the chest organs, in the upper lobes of both lungs, against the background of pneumofibrosis, there are foci and foci up to 20 mm in diameter with clear contours. Lymph nodes are not enlarged. There is no fluid in the pleural cavities. The heart and aorta are without features.

1) Make a diagnosis, indicate the ICD-10 code.
2) What additional research methods should be carried out in this case?
3) Evaluate the result of the test with the recombinant tuberculosis allergen.

Sample answer:

1) A16.0 Multiple tuberculomas of the upper lobes of both lungs, MBT (-)
2) SCT of the chest organs, sputum cultures for MBT in liquid and solid media, bronchoscopy with examination of bronchial lavage water for MBT.

3) The test with recombinant tuberculosis allergen is positive.

Task 67.

Patient L., 48 years old, sought medical help from a therapist. Considers himself sick for three months, complains of cough and weakness. He treated himself. I haven't had fluorography done for more than 6 years. He was sent for an X-ray examination and changes were detected. To clarify the diagnosis, SCT of the OGK was performed, and a consultation with a phthisiatrician was recommended. I turned to a phthisiatrician only a year later.

When examined by a phthisiatrician: hypersthenic physique, increased nutrition. The skin is of normal color. Lymph nodes accessible to palpation are not enlarged. On percussion: clear pulmonary sound over both pulmonary fields. On auscultation: breathing is harsh, there are no wheezes. NPV 18 per minute. Heart sounds are muffled and rhythmic. Blood pressure 140/80 mm Hg. Heart rate 76 per minute, pulse 76 per minute. The abdomen is enlarged due to subcutaneous fatty tissue; palpation is soft and painless. Liver +2 cm from under the edge of the costal arch. Gallbladder symptoms are negative. Urination is free and painless. There is no swelling.

Sputum bacterioscopy - no AFB detected.

PCR of sputum - MBT DNA, resistance to isoniazid and rifampicin were detected. Clinical blood and urine tests, biochemical blood test are within normal limits. Mantoux reaction with 2 TE – 12 mm.

SCT OGK - On the left in S1-3, against the background of fibrosis, there are different-sized, predominantly dense foci and caseous foci with clear contours. At a larger focus, the area of destruction is 8 mm in diameter.

1) Formulate the diagnosis, indicate the ICD-10 code
2) What additional research methods should be prescribed to clarify the diagnosis?
3) Determine the range of diseases for differential diagnosis.

Sample answer:

1) A15.3 Multiple tuberculomas of the upper lobe of the left lung, decay phase, MBT (-) MDR
2) Cultures of sputum and bronchial washings for MBT on liquid and solid media, followed by testing for sensitivity to anti-tuberculosis drugs to enable correction of the chemotherapy regimen.

3) Differential diagnosis should include cancer
   lung,benign neoplasms, parasitic lung diseases.

Task 68.

A 2-year-old child was admitted to the children's department of the anti-tuberculosis dispensary with an acute illness, with a temperature of 39°C. He was vaccinated at the maternity hospital, there is no scar on his left shoulder. The Mantoux test with 2 TE at 1 year and 2 years is negative. The condition is of moderate severity. The child has poor nutrition, is lagging behind in physical development, and is pale. Peripheral lymph nodes are not enlarged. Hard breathing is heard in the lungs. There is moderate leukocytosis and lymphopenia in the blood. Acid-fast mycobacteria were detected in sputum using fluorescent microscopy. A plain X-ray of the chest organs reveals bilateral small focal changes throughout all lung fields.

1) Evaluate the effectiveness of BCG vaccination.
2) Name the radiological syndrome.
3) What clinical form of tuberculosis does the clinical and radiological picture correspond to in this child?
4) What additional research methods should be prescribed to clarify the diagnosis and prevalence of the tuberculosis process?

Sample answer:

1) Vaccination is not effective, since the Mantoux test is negative at 1 and 2 years of age.
2) Focal dissemination syndrome.
3) The clinical and radiological picture corresponds to acute disseminated (miliary) pulmonary tuberculosis.
4) SCT of the chest organs, test with tuberculosis recombinant allergen or alternative in vitro tests, sputum testing for MBT using culture and PCR methods, determination of sensitivity to anti-tuberculosis drugs, urine culture for MBT, ultrasound of the abdominal organs

Task 69.

Patient O., 38 years old. She consulted a therapist with complaints about an increase in temperature to low-grade levels, severe weakness, increased sweating, fatigue, cough with a scant amount of mucous sputum. Considers himself sick for three months, notes a gradual deterioration of his condition. Consultation with a phthisiatrician is recommended.

At the appointment with the phthisiatrician: the patient's general condition is satisfactory. Asthenic physique. Body temperature 37.1°C. The skin is clean and pale. Peripheral lymph nodes are not enlarged. On percussion there is a pulmonary sound above the lungs, a slight dullness of the pulmonary sound above the apex on the right. Breathing in the lungs is vesicular. Heart sounds are clear and rhythmic. The abdomen is soft and painless. The liver is at the edge of the costal arch, elastic, painless. Stool and urination are not changed.

General blood test: red blood cells 4.0*1012/l, hemoglobin 105 g/l, color. pok. 0.8, leukocytes 9.1*109/l, pal. – 5, seg. – 59, eoz. – 3, lymph. – 18, mon. – 14, ESR – 24 mm/hour.

Reaction with recombinant tuberculosis allergen – 8 mm. Sputum

culture for MBT is negative

SCT of the chest: on the right in S2, against the background of a blurred pulmonary pattern, a group of polymorphic small foci with blurred contours and a tendency to merge.

1) Make a diagnosis, indicate the ICD-10 code.
2) What examination should be ordered to verify the diagnosis?
3) What disease should be considered for differential diagnosis first?
4) Is a negative sputum culture result for MBT a basis for excluding tuberculosis?

Sample answer:

1) A16.0 Focal tuberculosis S2 of the right lung, in the infiltration phase, MBT (-)
2) PCR of sputum for the presence of MBT DNA, culture of sputum and bronchial washings for MBT on liquid and solid media.
3) Focal tuberculosis should first of all be differentiated from focal pneumonia.
4) The absence of Mycobacterium tuberculosis in sputum is not a basis for excluding the tuberculosis process.

Task 70.

Patient T., 40 years old, a loader, was taken by the ambulance team to the Central District Hospital with complaints of increased body temperature to 39.5°C, shortness of breath with slight physical exertion, a rare dry cough, severe pain in the chest on the right, and weakness.

From the anamnesis: he considered himself sick for six months, when 2 weeks after suffering from a cold, the body temperature increased again, shortness of breath appeared, which gradually increased. Did not seek medical help, was treated

independently, without effect. A more thorough history taking revealed that the patient began to gradually lose weight about 2 months ago, became very tired, and considered this to be the consequences of increased workload.

Objectively: correct physique, low nutrition, pale skin, the right half of the chest lags behind in the act of breathing. Heart sounds are clear, rhythmic, heart rate 96 per minute, blood pressure 100/70 mmHg. Percussion: on the left there is a pulmonary sound, on the right - a dull pulmonary sound, during auscultation in the lungs on the left - vesicular breathing, on the right - respiratory sounds are not audible, there are no wheezes, respiratory rate is 24 per minute. The abdomen is soft, painless, the liver and spleen are not enlarged.

Complete blood count: red blood cells 3.8*1012/l, hemoglobin 106 g/l, c.p. 0.84, leukocytes 9.9*109/l, E-1, P-12, S-68, L-18, M-11, ESR 31 mm/hour.

X-ray: on the left - without features, on the right from the second rib to the dome of the diaphragm, intense homogeneous darkening is determined.

Pleural punctures were performed twice, respectively, 1500 ml and 600 ml of straw-yellow, transparent fluid were removed, the result of the study of pleural contents: protein 50 g/l, moderate cellular cytosis, lymphocytes 92%, neutrophils 8%, acid-fast mycobacteria, no atypical cells were found .

Test with recombinant tuberculosis allergen - 15 mm, in the center of the papule - a vesicle.

1) Make a preliminary diagnosis, indicate the ICD-10 code.
2) Did the doctor do the right thing by puncturing the pleural cavity twice? Justify your answer.
3) Which diseases should be prioritized?
   conductdifferential diagnosis?
4) Based on clinical and radiological data, what etiology of the process can we think about? Justify your answer.
5) What is the further tactics of the doctor at the Central District Hospital?

Sample answer:

1) R09.1 Right-sided exudative pleurisy of unspecified etiology.
2) Correct, because fluid from the pleural cavity should
   becompletely evacuated to prevent suppuration and encystation.
3) Between tuberculous pleurisy, nonspecific pleurisy
   etiology,pleural mesothelioma, metastatic pleurisy, cardiogenic effusion.
4) Most likely, one can think of a right-sided exudativepleurisy of tuberculous etiology. In favor of this diagnosis
   speaks

gradual development of the disease, lymphocytic cytosis of pleural fluid, hyperergic test with recombinant tuberculosis allergen.

5) Consultation with a phthisiatrician, followed by transfer of the patient for treatment to an anti-tuberculosis dispensary.

Task 71.

Evaluate the results of mass tuberculin diagnostics for children aged 7 years before BCG revaccination: out of 20 children who underwent the Mantoux test with 2 TE, 10 children had a negative test, 2 had a hyperergic test, and 8 had a normergic test.

1) Which children are subject to revaccination with the BCG vaccine?
2) Who should be referred first for consultation with a phthisiatrician?
3) What should be the pediatrician's tactics?

Sample answer:

1) 10 children with a negative tuberculin test are subject to revaccination.
2) First of all, children with hyperergic Mantoux tests with 2TE should be referred for consultation to a phthisiatrician.
3) It is necessary to analyze the results of tuberculin tests in previous years, prescribe a test with recombinant tuberculosis allergen or alternative in vitro tests, conduct a clinical and radiological examination in a children's clinic and refer children for consultation with a phthisiatrician.

Task 72.

Patient A., 27 years old, was referred to a phthisiatrician for consultation regarding the appearance of erythema nodosum on the skin in the ankle joint, general weakness, night sweats, and weight loss of 5-6 kg over the past year. From the medical history, it was revealed that the condition worsened after childbirth, when pain in large joints, low-grade fever up to 37.7°C, and reddish-bluish spots on the skin of the legs appeared. The woman consulted a general practitioner. She was examined: general blood test, general urinalysis, biochemical blood test, blood test for rheumatic factor, radiography of the knee joints. A preliminary diagnosis has been made: Rheumatoid arthritis? She was treated for this disease and took prednisolone for a short course. The condition has stabilized somewhat, but I was worried about weakness and sweating. 6 months later, during prof. examination, a fluorogram of the chest organs revealed fine-focal dissemination of the lungs, expansion of the shadow of the root of the lungs on both

sides due to enlargement of the lymph nodes of the bronchopulmonary group. Mantoux test with 2 TE is negative.

The patient was referred to a TB specialist to exclude the diagnosis of tuberculosis.

1) Formulate a preliminary diagnosis, indicate the ICD-10 code.
2) What diseases need differential diagnosis?
3) What examination should be ordered to exclude tuberculosis etiology?
4) What recommendations can be given to the patient in this case?

Sample answer:

1) D86.2 Sarcoidosis of intrathoracic lymph nodes and lungs.
2) Pulmonary tuberculosis, lung cancer, pneumoconiosis, alveolitis.
3) SCT of the chest organs, a test with a recombinant tuberculosis allergen or alternative tests in vitro, studies of sputum and bronchial washings for MBT three times using all methods (microscopy, PCR, culture on liquid and solid media), according to indications - invasive diagnostic methods.
4) Treatment and observation by a therapist and pulmonologist.

Task 73.

Patient S., 42 years old, fell ill 1 month ago, when the body temperature suddenly increased to 39°C, chills, cough with sputum, sometimes mixed with blood, pain in the right side, shortness of breath. He was hospitalized with a diagnosis of double pneumonia in the therapeutic department. He has been registered with an infectious disease specialist for HIV infection for three years.

Objectively: the condition is serious. Consciousness is preserved. Reduced nutrition. The skin is clean and moist. Breathing from the lungs is weakened, moist rales of various sizes on both sides, more pronounced on the right. The organs of the gastrointestinal tract are unremarkable, body temperature is 38.3°C.

General blood test: red blood cells 3.9*1012/l, hemoglobin 110 g/l, c.p. 0.8, leukocytes 9.2*109/l, E-3, P-8, S-69, L-14, M-2, ESR 49 mm/hour.

Sputum microscopy revealed AFB 3+.

Test with recombinant tuberculosis allergen – negative.

On a plain X-ray of the chest organs: on the right in the upper lobe there is intense heterogeneous infiltration of the lung tissue, multiple areas of clearing. On the left in the lower lobe there is infiltration, areas of clearing, focal shadows without clear contours.

1) Make a preliminary diagnosis, indicate the ICD-10 code.

2) Determine where the patient will be treated.
3) How can we explain the areas of clearing on a plain X-ray?
4) What additional examination should be ordered?

Sample answer:

1) B20, A15.0 HIV infection. Caseous pneumonia of the upper lobe of the right lung in the phase of disintegration and seeding, MBT (+)
2) Inpatient tuberculosis dispensary.
3) Areas of clearing are decay cavities.
4) SCT of the chest organs, sputum examination for MBT (PCR, culture on liquid and solid media), determination of sensitivity to anti-tuberculosis drugs.

Task 74.

Patient X., 19 years old, does not work. She contacted her local physician with complaints of weakness, fatigue, and dry cough. Two months ago, delivery at 32 weeks, without complications. I felt a slight malaise immediately after childbirth, but this condition was regarded as malaise in the postpartum period, meanwhile, the condition worsened. Outpatient treatment was started for two weeks (nonspecific antibacterial therapy) without effect. The patient was hospitalized in the therapeutic department. At this point, weakness and sweating increase, body temperature rises to 38.6 ° C in the evening, and is normal in the morning. By this time, the cough intensifies, weakness increases, and a headache appears.

Objectively: body temperature is 38.3°C. Normosthenic physique, low nutrition, cyanosis of the lips is noted. The chest is symmetrical, both halves participate equally in the act of breathing. The skin is moist, peripheral lymph nodes are not enlarged. During percussion in the lower parts on the right, there is dullness of the percussion sound. Auscultation shows vesicular breathing on the left, weakened breathing in the lower parts on the right. The abdomen is soft, the liver protrudes 2 cm from under the costal arch.

Complete blood count: red blood cells 3.6*1012/l, hemoglobin 115 g/l, c.p. 0.96, leukocytes 9.1*109/l, E-3, P-9, S-63, L-14, M-11, ESR 49 mm/hour.

General urine analysis without any features.

X-ray: on the right in S1, S2, S6 there is massive infiltration of the lung tissue, consisting of confluent foci. There are no features in the left lung.

A diagnosis of lobar pneumonia was made. The patient received nonspecific antibacterial therapy for three weeks. There was no effect from the treatment. In serious condition, she was transferred to the intensive care unit, where intensive therapy was carried out for 7 days and also without effect. An oncologist was consulted. A tumor process in the lung is excluded.

1) What etiology of the disease can be assumed?
2) What additional research methods should be prescribed to clarify the diagnosis?
3) Interpret the complete blood count.
4) Make a preliminary diagnosis, indicate the ICD-10 code.

Sample answer:

1) The etiology of the disease can be assumed to be tuberculous.
2) SCT of the chest organs, sputum analysis for AFB using the bacterioscopic method, PCR, sputum culture for MBT on liquid and solid media, immunological tests.
3) Decrease in the level of red blood cells and hemoglobin, moderate leukocytosis, band shift of the leukocyte formula to the left, lymphopenia, monocytosis, significant increase in ESR.
4) A16.0 Infiltrative tuberculosis S1,2,6 of the right lung, MBT (-)

Task 75.

A child aged 7 years was given a Mantoux test with 2TE. The result is a papule of 16 mm. History: he is in contact with his father, who has tuberculosis, and has not received preventive treatment. The previous Mantoux 2 TE test was negative.

A test with recombinant tuberculosis allergen was performed, the result was a 10 mm papule, with a vesicle in the center and lymphangitis.

1) Evaluate the Mantoux test with 2TE and the test with recombinant tuberculosis allergen.
2) What information should be included in the referral to a TB specialist?
3) What examination should the pediatrician prescribe for the child?
4) Make a preliminary diagnosis, indicate the ICD-10 code.

Sample answer:

1) Mantoux test with 2TE is positive. The test with recombinant tuberculosis allergen is hyperergic. A “turn” of tuberculin tests was revealed.

2) The direction contains information: about vaccination (re-vaccination) with BCG-M, BCG; results of previous skin tests and immunological tests; contacts with tuberculosis patients; fluorographic examination of persons from the child's environment over 15 years of age; previous chronic and allergic diseases; previous examinations by a TB specialist; the presence of concomitant pathology (according to the conclusion of specialists).
3) Complete blood count, complete urinalysis, CT scan of the chest or plain chest x-ray.
4) R76.1 Latent tuberculosis infection?

Task 76.

Patient I., 32 years old, does not work. No complaints. Changes in the lungs were detected during a medical examination for employment. The last time I had fluorography was 3 years ago, according to my words, it was normal.

Objectively: The condition is satisfactory. In the lungs, breathing is vesicular, there are no wheezes, respiratory rate is 16 per minute, blood pressure is 120/70 mm Hg, pulse is 80 per minute.

Complete blood count is within normal limits.

Sputum analysis using light microscopy three times - no AFB detected. Mantoux reaction with 2TE – 10 mm.

Plain radiography of the chest organs: on the left in S1-2 there is a group of small lesions of medium intensity with clear contours.

1) What form of tuberculosis is characterized by this X-ray picture?
2) Make a preliminary diagnosis, indicate the ICD-10 code.
3) What should be the therapist's tactics?
4) What examination should be prescribed to clarify the activity of the tuberculosis process?

Sample answer:

1) The X-ray picture is characteristic of inactive focal tuberculosis.
2) Focal tuberculosis S1-2 of the left lung in the phase of resorption and compaction, MBT (-)
3) It is necessary to refer the patient to a consultation with a phthisiatrician to clarify the diagnosis of tuberculosis and resolve the issue of the activity of the tuberculosis process.
4) SCT of the chest organs, bronchoscopy, examination of sputum and bronchial washings for MBT using PCR methods, cultures on liquid and solid media three times.

Task 77.

Patient A., 44 years old, was admitted to the hospital with complaints of fever up to 38.5°C, weakness, lack of appetite, fatigue, weak cough with a small amount of sputum, pain in the interscapular region, more on the right.

Objectively: the condition is of moderate severity. The skin is pale, high humidity, persistent red dermographism. Positive Vorobyov-Pottenger symptom (pain in the shoulder girdle upon palpation), more pronounced on the right. On percussion there is a pulmonary sound above the lungs, a slight dullness of sound above the apex of the right lung; upon auscultation above the apex on the right after coughing, dry wheezing is detected. Heart sounds are muffled and rhythmic. The abdomen is soft and painless. The liver is at the edge of the costal arch, elastic, painless. Stool and urination are not impaired.

Complete blood count: red blood cells 4.2*1012/l, hemoglobin 120 g/l, c.p. 0.86, leukocytes 12.8*109/l, E-3, P-8, S-58, L-17, M-14, ESR 24 mm/hour.

Test with recombinant tuberculosis allergen – 10 mm.

Sputum culture for MBT is positive, resistance to isoniazid and rifampicin. X-ray: in S1, S2 of the right lung there is a rounded shadow of 2.0 * 3.0 cm, with indistinct, blurry contours, of medium intensity, heterogeneous in structure with areas of clearing, around the shadow there are foci of low and medium intensity

1) Evaluate the sample with recombinant tuberculosis allergen.
2) Make a preliminary diagnosis, indicate the ICD-10 code.
3) Determine the patient's follow-up group.
4) What disease should be differentially diagnosed first?

Sample answer:

1) The test with recombinant tuberculosis allergen is positive.
2) Infiltrative tuberculosis S1-2 of the right lung in the phase of decay and seeding, MBT (+), MDR
3) Patients with active tuberculosis process are observed in group I dispensary observation.
4) Differential diagnosis is primarily carried out with nonspecific pneumonia.

Task 78.

During a mass fluorographic examination of a 32-year-old patient, a rounded shadow measuring 2.5*3.0 cm with clear contours, heterogeneous in structure due to denser inclusions, was found in the upper lobe of the left lung. A linear tomogram of the upper lobe (sections of 6.5 and 7.5 cm) confirms the clarity of the border and the heterogeneity of the structure of the shadow due to clearing adjacent to the draining bronchus and denser inclusions; fibrous and focal changes in the surrounding lung tissue. When examined by a shop doctor, it was determined that he had undergone fluorography 2 years ago, considers himself healthy, and has no complaints. A year ago, during a flu epidemic, he became acutely ill with catarrhal changes, a cough with low-grade fever persisted for about a month, and asthenic syndrome lasted for more than 2 months.

Objectively: The chest is not deformed, both halves of the chest are symmetrically involved in the act of breathing. Percussion reveals a clear pulmonary sound, no wheezing.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 125 g/l, c.p. 0.86, leukocytes 6.4*109/l, E-1, P-4, S-65, L-26, M-4, ESR 7 mm/hour.

The therapist suspected peripheral lung cancer, the patient was sent for consultation to an oncology clinic. During the examination, Mycobacterium tuberculosis was detected.

1) Based on what data can one assume the etiology of the disease?
2) Make a preliminary diagnosis, indicate the ICD-10 code.
3) Which doctor does the patient need to consult?
4) Interpret complete blood count
5) What diseases need differential diagnosis?

Sample answer:

1) Tuberculous etiology can be assumed based on the detection on a linear tomogram of a rounded shadow with clear contours, a heterogeneous structure surrounded by fibrosis and foci, and clinical signs (prolonged low-grade fever and asthenic syndrome).
2) A15.0 Tuberculoma of the upper lobe of the left lung in the decay phase, MBT (+)
3) In consultation with a phthisiatrician.
4) Blood test without pathological changes.
5) With peripheral lung cancer, benign lung tumors, lung cysts (parasitic and non-parasitic etiology, pneumonia, fungal infections of the lungs).

Task 79.

Patient A., 43 years old, arrived from prison. He was taken to the emergency department by the ambulance team with complaints of cough with bloody sputum.

There is no history of tuberculosis. In recent years, he was examined annually fluorographically, but changes in the lungs were never indicated.

On objective examination: the skin is pale in color, the subcutaneous fat layer is expressed satisfactorily. Submandibular and single axillary lymph nodes are palpated, painless, mobile, dense, not enlarged. Percussion above the lungs is a clear pulmonary sound. Breathing is weakened, wheezing is not heard.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 126 g/l, c.p. 0.84, leukocytes 4.6*109/l, E-2, P-2, S-63, L-26, M-7, ESR 4 mm/hour.

On a plain X-ray of the chest organs: on the left, in the area of 1 and 2 segments of the lung, foci are identified against the background of limited pneumosclerosis, intense, clearly defined, a decay cavity with a diameter of 2.0 * 3.0 cm. The roots of the lungs are somewhat compacted, in the left root there is a single petrification up to 1.0 cm in size. The heart shadow is within normal limits.

Mantoux test with 2 TE PPD-L - papule 14mm.

No AFB was detected in sputum using light and fluorescence microscopy.

1) What disease is most likely to be considered? Why?
2) What kind of examination should be done to confirm the diagnosis?
3) Determine where to treat this patient.
4) List several drugs that can be used as hemostatic therapy.

Sample answer:

1) Based on the data presented (risk factor - stay in prison, characteristic x-ray picture, positive result of the Mantoux test with 2 TE), we can think about infiltrative tuberculosis S1-2 of the left lung in the decay phase.
2) SCT of the chest organs, examination of sputum and bronchial lavages for MBT using all methods (PCR, microscopy, culture on liquid and solid media), test with recombinant tuberculosis allergen.
3) Inpatient tuberculosis dispensary.
4) Aminocaproic acid 5% solution - intravenous drip, dicinone 12.5% solution intramuscularly or intravenously, tranexamic acid 5% solution intravenous drip.

Task 80.

In a 42-year-old man, a fluorogram in the 2nd segment of the right lung revealed an irregularly shaped darkening measuring 3.0*2.0 cm, inhomogeneous in structure, the outer contours are unclear. During examination at the anti-tuberculosis dispensary, symptoms of intoxication were established, the temperature was 37.2°C.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 126 g/l, c.p. 0.84, leukocytes 7.2*109/l, E-1, P-9, S-69, L-18, M-3, ESR 20 mm/hour.

No wheezing is heard in the lungs. Mycobacteria were not detected in the sputum; the reaction to the Mantoux test with 2 TE was a papule 21 mm in diameter, with a vesicle in the center.

To clarify the X-ray picture, linear tomography was prescribed; it was found that in S2 on the right in the center of the caseous focus there is clearing, in the surrounding lung tissue in the basal segments of the right lung there are low-intensity foci.

1) Make a preliminary diagnosis, indicate the ICD-10 code.
2) What examination should be performed to clarify the diagnosis?
3) Evaluate the Mantoux test.

Sample answer:

1) A16.0 Infiltrative tuberculosis S2 of the right lung in the decay phase, MBT (-)
2) SCT of the chest organs, repeated examination of sputum for MBT using all methods (microscopy, PCR, culture on liquid and solid media).
3) The reaction to the Mantoux test with 2TE is hyperergic.

Task 81.

Girl 1 year 7 months. Life history: child from the 1st pregnancy, which occurred with toxicosis and anemia. Delivery at term, breech presentation. Weight – 3500.0g, height – 51cm. Breastfed until 2 months, sits from 6 months, walks from 12 months. She did not suffer from childhood infectious diseases.

Vaccinated with BCG-M in the maternity hospital, scar 3mm. Mantoux tests with 2 TE in 1 year - 4mm, after 6 months when examined by contact - 15mm.

The mother was diagnosed with infiltrative pulmonary tuberculosis with bacterial excretion. From the age of 2 months, the child is registered with a phthisiatrician regarding contact with his mother, and received 1 course of chemoprophylaxis. For examination and treatment she was admitted to a specialized children's department.

Objectively upon examination: upon admission the patient's condition was satisfactory. Weight – 11300 g, height – 81 cm. Body temperature 36.7°C. The skin is pale, clean, periorbital cyanosis. Peripheral lymphadenopathy. The breathing in the lungs is puerile, there is no wheezing. Heart tones are clear and rhythmic. The abdomen is soft and painless. The liver protrudes from under the edge of the costal arch by 1 cm. The spleen is at the edge of the costal arch. No pathology was detected in other organs and systems.

Complete blood count: red blood cells 3.1*1012/l, hemoglobin 108 g/l, c.p. 1.0, leukocytes 8.4*109/l, E-1, P-2, S-59, L-32, M-6, ESR 20 mm/hour.

General urine analysis is within normal limits.

Test with recombinant tuberculosis allergen - 16 mm.

X-ray of the chest organs: in the 8th segment of the right lung, focal darkening with indistinct edges, heterogeneous, of medium intensity, interspersed with calcium salts is determined. The root of the right lung is expanded due to the tracheobronchial and bronchopulmonary lymph nodes.

1) Formulate a clinical diagnosis.
2) Evaluate the results of tuberculin tests.
3) Evaluate the sample with recombinant tuberculosis allergen.
4) List additional examination methods to clarify the diagnosis.

Sample answer:

1) Primary tuberculosis complex S8 of the right lung in the phase of incomplete calcification, MBT (-)
2) At 1 year - post-vaccination allergy, when examined by contact after 6 months - infectious allergy.
3) The test with recombinant tuberculosis allergen is hyperergic.
4) SCT of the chest organs, studies of gastric lavage and bronchi for MBT using all methods (microscopy, PCR, cultures on liquid and solid media).

Task 82.

Patient V., 35 years old. Complaints of low-grade fever, weakness, increased sweating, especially at night, fatigue, dry cough. The disease began gradually. Ill for a month. Lives alone in a one-room apartment.

On examination: the condition is of moderate severity. Asthenic physique. Body temperature 37.1°C. The skin is clean and pale. Peripheral lymph nodes are not enlarged. Percussion above the lungs there is a pulmonary sound,

slight dullness of pulmonary sound above the apex on the right. Breathing is vesicular, on the right, in the upper parts against the background of hard breathing, isolated dry rales are heard. Heart sounds are muffled and rhythmic.

Complete blood count: red blood cells 3.1*1012/l, hemoglobin 108 g/l, c.p. 1.0, leukocytes 8.1*109/l, E-3, P-6, S-65, L-20, M-6, ESR 24 mm/hour.

Test with recombinant tuberculosis allergen – 9 mm.

Sputum culture using the VASTES method is positive, sensitivity to the main anti-tuberculosis drugs is preserved.

X-ray: on the right in S2, against the background of a blurred pulmonary pattern, polymorphic foci with a diameter of 5-9 mm, with blurred contours, a tendency towards fusion of foci and disintegration is expressed.

1) Make a diagnosis, indicate the ICD-10 code.
2) Analyze the sputum culture result. What treatment should be prescribed in this case?
3) Evaluate the sample with recombinant tuberculosis allergen.
4) Which follow-up group should this patient be in?

Sample answer:

1) A15.0 Focal tuberculosis S2 of the right lung in the infiltration phase, MBT (+)
2) Sputum culture confirms the presence of tuberculosis with bacterial excretion. In this case, it is necessary to prescribe a treatment regimen for drug-sensitive tuberculosis.
3) The test with recombinant tuberculosis allergen is positive.
4) A patient with an active tuberculosis process in the lungs is in Group I of dispensary observation.

Task 83.

Patient A., 22 years old, fell ill 2 weeks ago: her condition gradually worsened, in the evenings the temperature rose to 37°C, weakness, sweating were noted, headaches aggravated by bright light and noise, and constipation appeared. A day ago, there was a sharp deterioration: the temperature rose to 38.2°C, the intensity of the headache, photophobia increased, and red spots spontaneously appeared and disappeared on the body.

Objectively: the condition is severe, consciousness is confused. Normosthenic physique. The skin is clean, with pronounced red dermographism. Body temperature 39.2°C. Blood pressure 140/90 mm Hg. Percussion above the lungs is a pulmonary sound, auscultation is vesicular breathing. Heart sounds are muffled, tachycardia - 92 per minute. Stomach

retracted, scaphoid. Stool retention, urination is not impaired. Meningeal symptoms (stiff neck, Kernig, Brudzinski) are positive. Left-sided ptosis and convergent strabismus are noted.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 125 g/l, c.p. 0.83, leukocytes 12.8*109/l, E-3, P-8, S-58, L-20, M-11, ESR 33 mm/hour.

Examination of the cerebrospinal fluid: the liquid is opalescent and flows out in a stream. Lymphocytes 70%, neutrophils 30%. After 12 hours, the cobweb film fell out. Sugar 1.6 mmol/l, chlorides 92 mmol/l. Bacterioscopy of the cerebrospinal fluid - no AFB detected.

Plain X-ray of the chest organs: the pulmonary fields are transparent, without infiltrative changes, in S2 on the right there is a Hohn's lesion.

1) Which cranial nerves are involved?
2) Make a diagnosis, indicate the ICD-10 code.
3) What speaks in favor of this diagnosis?
4) What research methods and specialist consultations are necessary to confirm the diagnosis?

Sample answer:

1) The pathological process involves the oculomotor (III pair) and abducens nerve (VI pair).
2) A 17.0 Tuberculous meningitis, MBT (-)
3) This diagnosis is supported by the gradual onset of the disease, characteristic changes in the cerebrospinal fluid, and X-ray data indicating a previous tuberculosis process.
4) Test with recombinant tuberculosis allergen, repeated sputum tests for MBT using all methods (microscopy, PCR, cultures on liquid and solid media), cultures of cerebrospinal fluid for MBT on liquid and solid media, consultation with a neurologist, infectious disease specialist, phthisiatrician.

Task 84.

Patient L., 15 years old. She consulted a general practitioner with complaints about a deterioration in her condition over the last 2 weeks, periodic increases in temperature to 37-38°C, pain in the right side, dry cough, weakness, sweating at night.

Objectively: in the lower parts of the right lung, dullness of percussion sound and weakened breathing are determined, respiratory rate is 19 per 1 minute, heart rate is 74 per minute.

Examination results: Tracheobronchoscopy revealed no pathological changes in the bronchi; no AFB were detected in the washing waters using bacterioscopy. Cultures of bronchial lavage water for MBT are in progress.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 123 g/l, c.p. 0.8, leukocytes 3.3*109/l, E-3, P-12, S-65, L-13, M-7, ESR 20 mm/hour.

General urine analysis is within normal limits.

On a plain X-ray of the chest organs and lateral tomograms, a rounded focus with blurred contours measuring about 3.0 cm is determined in the 6th segment of the right lung. The right root of the lung is expanded and compacted due to enlarged bronchopulmonary lymph nodes. In the overview image, the strengthening of the pulmonary pattern is clearly visible between these two components.

1) Presumptive diagnosis?
2) Suggest additional diagnostic methods to confirm the diagnosis.
3) Indicate the maximum timeframe for obtaining MBT culture results.
4) What disease should be differentially diagnosed first?

Sample answer:

1) Primary tuberculosis complex S6 of the right lung in the infiltration phase, MBT(-).
2) SCT of the chest organs, repeated examination of sputum for MBT using all methods (microscopy, PCR, cultures on liquid and solid media).
3) Crops on MBT on liquid media - 42 days, on solid media - up to 3 months.
4) First of all, you need to conduct a differential diagnosis

Withnonspecific pneumonia.

Task 85.

Patient Z., 56 years old, was admitted to the inpatient tuberculosis dispensary with complaints of increased fatigue, temperature up to 38.1°C, weakness, lack of appetite, cough with sputum streaked with blood, pain in the interscapular region, more on the left. Over the past six months I have lost 5 kg.

Objectively: the condition is of moderate severity. Asthenic physique. The skin is moist, persistent red dermographism. Blood pressure 90/60 mm Hg. The positive Vorobyov-Pottenger symptom (pain in the muscles of the shoulder girdle upon palpation) is more pronounced on the left. On auscultation over the apex of the left lung after

coughing reveals dry wheezing. Heart sounds are muffled and rhythmic. The abdomen is soft and painless. The liver is at the edge of the costal arch, elastic, painless. Stool and urination are not impaired.

Complete blood count: red blood cells 4.5*1012/l, hemoglobin 125 g/l, c.p. 0.83, leukocytes 14.6*109/l, E-3, P-8, S-58, L-17, M-14, ESR 20 mm/hour.

Sputum analyzes using light and fluorescence microscopy revealed no AFB.

Survey X-ray of the chest organs: in S1-S2 of the left lung a shadow of 4.0*5.0 cm is detected, with indistinct, blurry contours, of medium intensity, heterogeneous in structure with areas of clearing and foci of dropout.

1) Formulate a preliminary diagnosis, indicate the ICD-10 code.
2) What additional studies need to be carried out to clarify the diagnosis?

Sample answer:

1) A15.0 Infiltrative tuberculosis S1-2 of the left lung in the phase of disintegration and seeding, MBT (+)
2) SCT of the chest organs, cultures of sputum and bronchial lavages for MBT in liquid and solid media twice before the start of specific therapy, a test with recombinant tuberculosis allergen or alternative in vitro tests.

Task 86.

Patient F., 56 years old. Complaints of weakness, increased body temperature up to 38.0°C, cough with mucous sputum, hemoptysis, shortness of breath on exertion.

From the anamnesis it is known that 4 years ago, after being in prison, the patient was diagnosed with infiltrative tuberculosis with decay and bacterial excretion. He received treatment in a hospital setting, adherence to treatment was low, and he abused alcohol. He interrupted the course of treatment and left the hospital without permission.

On examination: the condition is moderate. Reduced nutrition. The right half of the chest lags behind in the act of breathing. On auscultation, there are moist rales in the upper regions on the right. Percussion in the lower parts of both lungs produces a box sound. NPV 26 in 1 min. The liver protrudes 2 cm from under the edge of the costal arch.

Complete blood count: red blood cells 3.8*1012/l, hemoglobin 110 g/l, c.p. 0.87, leukocytes 11.7*109/l, E-3, P-8, S-69, L-14, M-6, ESR 52 mm/hour.

Sputum culture for MBT was positive; resistance to rifampicin, isoniazid, and streptomycin was detected.

Survey X-ray of the chest organs: on the right in S1 there is pronounced fibrosis, fibrous-scar changes, deformed cavities of various sizes, lesions with elements of polymorphism. On the right in S6, S10, on the left in S4-5 there are dropout foci. The root of the right lung is deformed, pulled up, on the left - without features.

1) Why did the process progress?
2) Formulate the diagnosis, indicate the ICD-10 code.
3) What result of a test with recombinant tuberculosis allergen can be expected in this case?
4) List the most common complications that can develop with this form of pulmonary tuberculosis.

Sample answer:

1) The progression of the tuberculosis process occurred due to irregular treatment, interruption of chemotherapy, and alcohol abuse
2) A15.0 Fibrous-cavernous tuberculosis of the upper lobe of the right lung in the phase of infiltration and seeding, MBT+, multidrug resistance
3) Negative test result with recombinant tuberculosis allergen.
4) Pulmonary heart failure, pulmonary hemorrhage, spontaneouspneumothorax, amyloidosis of internal organs, renal failure.

Task 87.

Patient S., 13 years old. He has been registered with an endocrinologist for type 1 diabetes mellitus for five years. A year ago, he was observed at an anti-tuberculosis dispensary for tuberculosis intoxication. A week after the flu, the condition worsened again: a fever of up to 39.5°C and severe chills appeared. For 5 days he was observed by a local pediatrician on an outpatient basis with a diagnosis of ARVI. His condition progressively worsened and he was hospitalized in an infectious diseases hospital. Upon examination, the condition is serious. Hectic fever. Auscultation of the lungs reveals weakened breathing. Tachycardia.

An X-ray examination of the lungs revealed an increase in the pulmonary pattern. A toxic course of influenza was diagnosed and broad-spectrum penicillin antibiotics and antiviral drugs were prescribed. Despite the measures taken, the condition worsened; on the 15th day of the disease, signs of respiratory failure appeared. Antibiotics were changed to

cephalosporins. There was no effect of treatment. The patient became lethargic, there was confusion, vomiting not associated with food intake, stiff neck, positive Kernig and Brudzinski signs.

A repeat X-ray of the chest organs was taken: small focal shadows were visible throughout all lung fields.

1) What disease can be assumed in this case?
2) Are there any risk factors for developing tuberculosis in this patient?
3) What diagnostic measures need to be carried out?
4) What changes in the cerebrospinal fluid are most characteristic of tuberculous meningitis?

Sample answer:

1) Tuberculous meningitis.
2) The patient has risk factors for the development of tuberculosis - type 1 diabetes mellitus, the patient was previously infected with MTB, since there is a history of observation by a phthisiatrician regarding tuberculosis intoxication.
3) SCT of the chest organs, cerebrospinal fluid examination, incl. for MBT, examination of sputum, bronchial washings for MBT using all methods (microscopy, PCR, culture), consultation with a neurologist, phthisiatrician, infectious disease specialist, endocrinologist
4) Increased protein content, mainly lymphocytic cytosis, decreased amount of glucose and chlorides, loss of arachnoid film.

Task 88.

Patient R., 50 years old, does not work. At an appointment with a TB doctor, he complains of a cough with sputum and blood, shortness of breath during physical exertion.

From the anamnesis it is known that 5 years ago the patient was diagnosed with infiltrative tuberculosis of the upper lobe of the right lung in the decay phase, MBT (+). During treatment, he abused alcohol, voluntarily interrupted courses of treatment, left the hospital, and did not show up for outpatient appointments. I have not taken anti-tuberculosis drugs for the last 3 years.

Objectively: decreased nutrition, the right half of the chest lags behind in the act of breathing. On auscultation, amphoric breathing and isolated moist rales are heard in the upper lobe of the right lung. During percussion, there is a box sound over the lower sections of both lungs. RR 24/1 min, heart rate 96/1 min, blood pressure 110/70 mm Hg. The liver protrudes from under the costal arch by 3.0 cm.

General blood test: red blood cells 3.7*1012/l, hemoglobin 108 g/l, c.p. 0.88, leukocytes 13.0*109/l, E-2, P-8, S-61, L-15, M-14, ESR 40 mm/hour.

Survey X-ray of the chest organs: a decrease in the volume of the upper lobe of the right lung, several cavities of irregular shape with thick infiltrated walls, different-sized foci and caseous foci in the lower lobe of the right and left lung are determined. The root of the right lung is deformed and pulled up.

AFB +++ was detected in sputum using fluorescence microscopy.

1) Formulate the diagnosis, indicate the ICD-10 code.
2) What contributed to the development of this clinical form of tuberculosis?
3) List the complications that can occur with this form of tuberculosis?
4) List several drugs that can be used as hemostatic therapy.

Sample answer:

1) A15.0 Fibrous-cavernous tuberculosis of the upper lobe of the right lung, MBT+, hemoptysis.
2) The progression of the tuberculosis process occurred due to irregular treatment, interruption of chemotherapy, cessation of treatment, and alcohol abuse.
3) Pulmonary heart failure, pulmonary hemorrhage, spontaneous pneumothorax, amyloidosis of internal organs, renal failure.
4) Aminocaproic acid 5% solution - intravenous drip, dicinone 12.5% solution intramuscularly or intravenously, tranexamic acid 5% solution intravenous drip.

Task 89.

At an appointment with a phthisiatrician, the mother of a patient with fibrous-cavernous pulmonary tuberculosis with bacterial excretion. He makes no complaints.

Lives with his son in the same apartment, his son has a separate room. The woman carries out current disinfection regularly. I received a course of preventive therapy. Fluorographic examination took place 10 months ago.

1) When should the next fluorographic examination be scheduled?
2) Determine the timing of removing the patient from the dispensary register of the anti-tuberculosis dispensary.
3) Determine the follow-up group for this patient.

Sample answer:

1) Fluorographic examination must be performed 2 times a year.
2) Removal from the dispensary register is possible only 1 year after the bacteria excretor is removed from the epidemiological register.
3) IVA group of dispensary observation

Task 90.

When registering for a sanatorium, a 42-year-old man's fluorogram revealed a focal shadow in S1 of the right lung. The patient has no complaints, his health is satisfactory.

1) What disease can be suspected in this case?
2) What examinations need to be performed on the patient to clarify the diagnosis?
3) To which specialist should the patient be referred for consultation?
4) Name the follow-up group in which the patient should be observed until the activity of changes in the lungs is clarified.
5) Determine in which case the patient can be sent to a sanatorium.

Sample answer:

1) Pulmonary tuberculosis can be suspected.
2) SCT of the chest organs, a test with recombinant tuberculosis allergen or alternative in vitro tests, bronchoscopy, examination of sputum and bronchial lavages for MBT by all methods (microscopy, PCR, cultures on liquid and solid media).
3) A consultation with a phthisiatrician is required.
4) Zero (0) group of dispensary observation – for observation of persons with suspected tuberculosis.
5) A referral to a sanatorium can be issued if the patient does not have evidence of active pulmonary tuberculosis.

Task 91.

List the main clinical forms of primary tuberculosis.

Sample answer:

Tuberculosis intoxication, tuberculosis in the intrathoracic lymph nodes,
primary tuberculosis complex.

Task 92.

Name the three components of the primary tuberculosis complex.

Sample answer:

Primary affect, tuberculosis of the regional lymph node and tuberculous lymphangitis connecting them.

Task 93.

What is a Gon lesion?

Sample answer:

A calcified focus surrounded by a dense hyaline capsule, which forms at the site of the primary affect of the tuberculosis complex.

Task 94.

What symptoms suggest the development of pleurisy?

Sample answer:

The appearance of shortness of breath, chest pain, fever to febrile levels.

Task 95.

List the types of tuberculosis infiltrates.

Sample answer:

Broncholobular, cloud-shaped, round, perisissuritis, lobitis.

Task 96.

List the features of caseous pneumonia.

Sample answer:

The features of caseous pneumonia are a pronounced caseous-necrotic component of tuberculous inflammation, rapid progression and the formation of multiple decay cavities.

Task 97.

What types of tuberculomas are distinguished depending on size?

Sample answer:

There are small (up to 2 cm in diameter), medium (2-4 cm) and large (more than 4 cm) tuberculomas.

Task 98.

List the types of clinical course of tuberculosis.

Sample answer:

The clinical course of tuberculoma is progressive and stationary

Andregressing.

Task 99.

Name an important feature of cavernous tuberculosis.

Sample answer:

An important feature of cavernous tuberculosis is the limited and reversible nature of morphological changes.

Task 100.

What does Ehrlich's tetrad include?

Sample answer:

Mycobacterium tuberculosis, cholesterol crystals, soliamorphous

phosphates,calcified elastic fibers

PC – 8:

Closed type tasks:

Task 1. Instructions: Choose one correct answer.

How long does the intensive phase of anti-tuberculosis therapy last for focal pulmonary tuberculosis?

1. 1-3 months
2. 4-6 months
3. 9-11 months
4. 18-24 months

*Sample answer:*2. 4-6 months

Task 2. Instructions: Choose one correct answer. Therapeutic tactics for infiltrative pulmonary tuberculosis

1. long-term inpatient treatment with the use of 4 anti-tuberculosis drugs using pathogenetic agents
2. inpatient treatment for no more than 3-4 months using 2 anti-tuberculosis drugs

3. early surgical treatment followed by antibiotic therapy and outpatient treatment for 5-6 months
4. long-term inpatient treatment with the use of 5-6 anti-tuberculosis drugs using pathogenetic agents

Sample answer: 1.long-term inpatient treatment using
4anti-tuberculosis drugs using pathogenetic agents

Task 3. Instructions: Choose one correct answer.

In a patient with pulmonary tuberculoma, identified in the phase of disintegration and seeding, MBT + and who received effective chemotherapy, it is most likely that

1. steady course of the process
2. progression
3. formation of conglomerate tuberculoma
4. regressive version of the process

*Sample answer:*4. regressive version of the process

Task 4. Instructions: Choose one correct answer.

The penetration of anti-tuberculosis drugs into the source of infection in tuberculoma is prevented

1. perifocal inflammation
2. specific granulation tissue
3. fibrous capsule
4. all of the above

*Sample answer:*3. fibrous capsule

Task 5. Instructions: Choose one correct answer.

The main indications for surgical treatment for pulmonary tuberculoma are

1. in case of stationary course of the disease, medium and large tuberculomas, concomitant diseases
2. the presence of multiple tuberculomas in one lobe of the lung
3. progressive course of the disease, slow regression of the process during chemotherapy
4. all answers are correct

*Sample answer:*4. all answers are correct

Task 6. Instructions: Choose one correct answer.

The most effective means of combating pulmonary hemorrhage in chronic forms of tuberculosis is

1. application of tourniquets to limbs
2. subcutaneous oxygen injection
3. pneumoperitoneum
4. controlled arterial hypotension

*Sample answer:*3. application of pneumoperitoneum

Task 7. Instructions: Choose one correct answer.

The main cause of death in patients with pulmonary hemorrhage is

1. acute pneumonia
2. hemorrhagic shock
3. asphyxia
4. congestive pneumonia

*Sample answer:*3. asphyxia

Task 8. Instructions: Choose one correct answer.

In the treatment of tuberculosis with preserved sensitivity, it is most often used

1. rifampicin, isoniazid, pyrazinamide
2. kanamycin, rifampicin, tisamide
3. isoniazid, streptomycin, PAS
4. ethionamide, isoniazid, streptomycin

*Sample answer:*1. rifampicin, isoniazid, pyrazinamide

Task 9. Instructions: Choose one correct answer.

In the treatment of tuberculosis, the selection of the combination and dose of chemotherapy drugs is determined

1. age of the patient and concomitant diseases
2. phase of the process
3. presence of complications
4. all of the above

*Sample answer:*4. all of the above

Task 10. Instructions: Choose one correct answer. The main

drug in the treatment of tuberculosis is

1. T-bone
2. PASK
3. isoniazid
4. streptomycin

*Sample answer:*3. isoniazid

Task 11. Instructions: Choose one correct answer. What treatment methods are related to collapse therapy?

1. resection of a lung segment
2. lung lobe resection
3. artificial pneumothorax and pneumoperitoneum
4. pleurectomy

*Sample answer:*3. artificial pneumothorax and pneumoperitoneum

Task 12. Instructions: Choose one correct answer. What dosage is isoniazid used?

1. 1 mg/kg
2. 10 mg/kg
3. 20 mg/kg
4. 30 mg/kg

*Sample answer:*2. 10 mg/kg

Task 13. Instructions: Choose one correct answer. What vitamin deficiency is caused by taking isoniazid?

1. AT 6
2. WITH
3. E
4. D

*Sample answer:*1. B6

Task 14. Instructions: Choose one correct answer. The most highly active anti-tuberculosis drug

1. streptomycin
2. isoniazid
3. rifampicin

4. avelox

*Sample answer:*2. isoniazid

Task 15. Instructions: Choose one correct answer. With effective treatment, lobita is more likely to form

1. area of pneumosclerosis
2. area of pneumosclerosis with foci
3. tuberculoma
4. cirrhosis

*Sample answer:*1. area of pneumosclerosis

Task 16. Instructions: Choose one correct answer. The basic principle of treatment of bronchial tuberculosis

1. general treatment
2. local treatment
3. combined treatment
4. treatment of complications

*Sample answer:*3. combined treatment

Task 17. Instructions: Choose one correct answer. The method of treatment with glucocorticoid hormones depends on

1. nature of inflammatory reactions
2. indications for prescribing hormones
3. patient's age
4. presence of relative contraindications

*Sample answer:*1. nature of inflammatory reactions

Task 18. Instructions: Choose one correct answer.
The main activities that make up the work of an anti-tuberculosis dispensary are:

1. observation of the contingent by group, accounting, documentation and reporting
2. outpatient treatment of patients and chemoprophylaxis
3. diagnosis of tuberculosis
4. all of the above

*Sample answer:*4. all of the above

Task 19. Instructions: Choose one correct answer.

At the initial manifestations of renal tuberculosis, urine analysis is characterized by:

1. proteinuria
2. alkaline urine
3. leukocyturia
4. microhematuria

*Sample answer:*4. microhematuria

Task 20. Instructions: Choose one correct answer.

In patients with tuberculosis of the respiratory system, as well as children infected with Mycobacterium tuberculosis, when the first signs of a disease of the urinary system appear, it is necessary:

1. systematically conduct a urine test
2. consult a nephrologist
3. do a urine culture for MBT
4. consult a urologist

*Sample answer:*3. do a urine culture for MBT

Task 21. Instructions: Choose several correct answers. What drugs are included in the treatment regimen for sensitive tuberculosis:

1. bedaquiline
2. isoniazid
3. rifampicin
4. amikacin
5. ethambutol
6. moxifloxacin
7. pyrazinamide

*Sample answer:*2, 3, 5, 7

Task 22. Instructions: Choose several correct answers. Select reserve anti-tuberculosis drugs:

1. levofloxacin
2. ethionamide
3. tetracycline

4. penicillin
5. bedaquiline
6. cefaperazone
7. linezolid

*Sample answer:*1, 2, 5, 7

Task 23. Instructions: Establish a correspondence between anti-tuberculosis the drug and its side effects.

1.Isoniazid	A. Dizziness, memory loss, convulsions
2.Ethambutol	B. Shumvushah, sensation “stuffy” ears, hearing loss, up to complete deafness
3.Bedaquiline	B. Deterioration of visual acuity, retrobulbar neuritis, atrophy optic nerve
4.Kanamycin	D. Prolongation of the QT interval on the ECG

*Sample answer:*1 – A, 2 – B, 3 – D, 4 – B

Task 24. Instructions: Establish a correspondence between clinical shapetuberculosis and auscultation data.

1.Dry pleurisy	A. Amphoric breathing
2. Exudative pleurisy	B. Pleural friction noise
3. Caseous pneumonia	B. Sharp weakening of breathing
4. Fibrous-cavernous tuberculosis	D. Large bubbling rales

*Sample answer:*1 – B, 2 – C, 3 – D, 4 – A

Task 25. Instructions: Match the group number epidemic focus and its description.

First group of lesions	A. Foci of residence of patients with active pulmonary tuberculosis with the cessation of MTB secretion, where there are no children and adolescents, there are no aggravating social factors, and also include foci after the departure (or death) of the bacterial excretor.
Second group of lesions	B. Outbreaks in which patients with active pulmonary tuberculosis live without MBT excretion established during registration, but there are children and adolescents. This group also includes foci of infection in which patients with extrapulmonary tuberculosis with ulcers or fistulas.
Third group of lesions	B. Foci in which patients with pulmonary tuberculosis, secreting MBT, live in separate apartments without children and adolescents and observe sanitary and hygienic regimes.
Fourth group of lesions	D. Foci of zoonotic origin.
Fifth group of lesions	D. Foci with the greatest epidemic danger. These include places of residence of patients with pulmonary tuberculosis with bacterial excretion, children and adolescents living in the family,unsatisfactory sanitary facilities conditions, the anti-epidemic regime is not observed.

*Sample answer:*1 – D, 2 – C, 3 – B, 4 – A, 5 – D

Open type tasks:

Task 26.

Children vaccinated with BCG at birth_____Once a year, a Mantoux test with 2 TE is performed, regardless of the result of the previous test.

*Sample answer:*from 12 months of age

Task 27.

A necessary and important component of examining a patient for suspected tuberculosis is_____examination of diagnostic material for MBT.

*Sample answer:*bacteriological Task

28.+++++

Mild and moderate allergic side reactions to anti-tuberculosis drugs are treated with _____ funds.

*Sample answer:*desensitizing

Task 29.

Most neurotoxic adverse reactions caused by isoniazid can be prevented and treated with _____.

*Sample answer:*pyridoxine (vitamin B6)

Task 30.

Before appointment_____it is necessary to refer the patient to an ophthalmologist.

Response standard: ethambutol

Task 31.

An ineffective course of chemotherapy is_____ and negative clinical and radiological dynamics.

*Sample answer:*maintaining or resuming the allocation of MBT

Task 32.++++

Typical forms of pulmonary tuberculosis, which are often used surgical treatment are ____, ___ And _____.

*Sample answer:*tuberculoma, cavernous and fibrous-cavernous tuberculosis

Task 33.

Persons suspected of having tuberculosis are observed in _____dispensary registration group.

*Sample answer:*null

Task 34.

Patient S., 42 years old, fell ill 2 weeks ago, when his body temperature suddenly increased to 39°C, chills, cough with sputum, sometimes mixed with blood, pain in the right side, shortness of breath. Did not seek medical help, condition

worsened. He was hospitalized with a diagnosis of double pneumonia in the therapeutic department. He has been registered with an infectious disease specialist for HIV infection for 3 years.

Objectively: the condition is serious. Consciousness is preserved. Reduced nutrition. The skin is clean and moist. Breathing is bronchial, weakened, moist rales of various sizes on both sides, more pronounced on the right. The organs of the gastrointestinal tract are unremarkable, body temperature is 38.3°C.

General blood test: red blood cells 3.7*1012/l, hemoglobin 108 g/l, c.p. 0.88, leukocytes 12.0*109/l, E-2, P-8, S-61, L-15, M-14, ESR 42 mm/hour.

Sputum analysis using light microscopy revealed acid-fast mycobacteria – AFB 3+.

A plain radiograph shows infiltration of the lung tissue in the right upper lobe, multiple areas of clearing. On the left in the lower lobe there is infiltration, areas of clearing, focal shadows without clear contours.

1) Where should the patient be treated?
2) How can we explain the areas of clearing on a plain X-ray?
3) Are additional examination methods necessary?
4) Formulate a preliminary diagnosis?

Sample answer:

1) Treatment should be carried out in a hospital TB dispensary.
2) The areas of clearing on the x-ray are cavities of decay of the lung tissue.
3) It is necessary to carry out SCT of the chest organs, PCR, sputum cultures on liquid and solid media for MBT and sensitivity to anti-tuberculosis drugs.
4) HIV infection, stage 4B, caseous pneumonia in the phase of decay and seeding, MBT (+).

Task 35.

Patient M., 20 years old. On the 4th day after birth, her temperature rose to 39°C, weakness and shortness of breath appeared. Treatment with broad-spectrum antibiotics did not lead to improvement of the condition.

Objectively: correct physique, low nutrition. The skin is clean, pale, lips have a cyanotic tint. Peripheral lymph nodes are not enlarged. Pulse 110 per minute, rhythmic, body temperature up to 39.4°C. The boundaries of the heart are within normal limits, the heart sounds are muffled, and there is a gentle systolic murmur above the apex.

Blood pressure 110/60 mm. rt. Art. NPV 36 per minute. The chest is symmetrical, evenly participates in the act of breathing; upon percussion, there is a pulmonary sound with a boxy tint. Auscultation on both sides shows scanty scattered wet and dry rales. The abdomen is soft, the lower edge of the liver is 2.0 cm below the costal arch, sensitive to palpation. The spleen is not palpable.

Blood test: erythrocytes 3.28*1012/l, hemoglobin – 106 g/l, leukocytes 11.5*109/l, e-0, p-5, s-65, l-18, m-12, ESR – 24 mm/h.

Urinalysis without pathological changes.

Sputum tests: bacterioscopy and PCR - negative. Crops at work.

On a chest x-ray, throughout all lung fields there are evenly small focal shadows along the vessels. The sinuses are free.

1) Interpret the blood test.
2) What disease can you think about?
3) What diseases need differential diagnosis?
4) Prescribe treatment.

Sample answer:

1) Decreased hemoglobin level, leukocytosis, shift of the leukocyte formula to the left, monocytosis, increased ESR.
2) About miliary tuberculosis with acute course.
3) Sarcoidosis, small-focal bilateral pneumonia, carcinomatosis, collagenosis.
4) Chemotherapy regimen I.

Task 36.

Patient L., 19 years old, does not work. She contacted her local physician with complaints of weakness, fatigue, and dry cough. Two months ago, delivery at 32 weeks, without complications. I felt a slight malaise immediately after giving birth, but this condition was regarded as malaise in the postpartum period, meanwhile, the malaise grew. Outpatient treatment was started for two weeks (nonspecific antibacterial therapy) without effect. The patient was hospitalized in the therapeutic department. At this point, weakness and sweating increase, body temperature rises to 38.6 ° C in the evening, and is normal in the morning. By this time, the cough is intensifying, weakness is increasing, a feeling of weakness and headache appear.

Objectively: body temperature is 38.3°C. The patient has a normal build, low nutrition, and slight cyanosis of the lips. The chest is symmetrical, both halves

actively participate in the act of breathing. The skin is moist, peripheral lymph nodes are not enlarged. During percussion in the lower parts on the right, there is dullness of the percussion sound. Auscultation reveals vesicular breathing on the left, slightly weakened in the lower parts on the right. The abdomen is soft, the liver protrudes 2.0 cm from under the costal arch. The spleen is not palpable.

General blood test: erythrocytes 3.6*1012/l, Hb-115 g/l, leukocytes -9.1*109/l, e-3, p-9, s-63, l-14, m-11, ESR – 29 mm/h.

General urine analysis without any features.

X-ray: on the right in S1, S2, S6 there is massive infiltration of the lung tissue, consisting of confluent foci.

For a month, the patient diagnosed with lobar pneumonia received nonspecific antibacterial therapy. There was no effect from the treatment. In serious condition, the patient was transferred to the intensive care unit, where intensive therapy was also carried out for 10 days and also without effect. An oncologist was consulted. A tumor process in the lung is excluded.

1) What additional research methods are needed to clarify the diagnosis?
2) Interpret the complete blood count.
3) Presumptive diagnosis?
4) Prescribe a chemotherapy regimen.

Sample answer:

1) Considering that in this case it is necessary to assume pulmonary tuberculosis, it is necessary to conduct a clinical minimum examination for tuberculosis: complaints, anamnesis, physical examination, general blood test, general urine test, sputum for AFB using the bacterioscopic method, PCR, plain chest radiography, allergen test recombinant tuberculosis and submit all results to the CVC to clarify the diagnosis of tuberculosis.
2) Moderate leukocytosis, band shift of the leukocyte formula to the left, lymphopenia, moderate increase in ESR, decrease in the number of red blood cells and hemoglobin.
3) Infiltrative tuberculosis S1-2.6 of the right lung, MBT (-).
4) I regimen of chemotherapy until the results of sputum tests for sensitivity to anti-tuberculosis drugs are obtained.

Task 37.

A child aged 7 years was given a Mantoux test with 2TE. The result is a papule of 16 mm. History: is in contact with his father, who has tuberculosis. A test was done with recombinant tuberculosis allergen, the result was a 10 mm papule, with a vesicle in the center and lymphangitis. Previous Mantoux test 2 TE – 11 mm.

1) Evaluate the results of immunological tests.
2) Under what conditions can a diagnosis of latent tuberculosis infection be made?
3) In which dispensary registration group should the child be observed? (Provided there are no local forms of tuberculosis)
4) What risk factors need to be considered when prescribing preventive treatment?

Sample answer:

1) Hyperergic reaction to the Mantoux test and a test with recombinant tuberculosis allergen.
2) Absence of symptoms of tuberculosis intoxication, absence of radiological signs of tuberculosis, absence of signs of extrathoracic tuberculosis.
3) IVA group of dispensary registration.
4) Preventive treatment is prescribed regardless of the presence of risk factors.

Task 38.

Patient S., 33 years old, bus driver. During the next fluorographic examination in the clinic, changes were revealed in the right lung; in the upper lobe, an inhomogeneous focus of darkening with unclear contours, with a path to the root and clearing in the center, was determined.

After a call for additional examination by a general practitioner, it was determined that the patient had contact with a neighbor with tuberculosis 2 years ago. 2 weeks before prof. During the examination, he suffered from a cold; within a week he noted an increase in body temperature in the evening to 37.5-37.8°C, weakness, and malaise. He did not seek medical help. At the time of visiting the therapist, he noted slight general weakness, no other complaints.

A survey radiograph shows a darkening of 5.0*6.0 cm in size in 1-2 segments of the right lung, of medium intensity, inhomogeneous, with denser focal inclusions and clearings, with a path to the root of the lung, irregular in shape with blurred contours.

1) What should be the tactics of X-ray examination?

2) What disease is most likely to be considered?
3) What examination should the therapist perform to confirm the diagnosis?
4) What diseases should this pathology be differentiated from?
5) Treatment tactics for the disease?

Sample answer:

1) It is necessary to prescribe SCT of the chest organs.
2) Infiltrative tuberculosis S1-2 of the right lung in the decay phase, MBT (-).
3) Sputum analysis for AFB by bacterioscopy three times, skin tests with tuberculin and a test with recombinant tuberculosis allergen, general blood test.
4) Bronchopneumonia, lobar pneumonia, influenza.
5) I regimen of chemotherapy until the results of sputum PCR testing for sensitivity to anti-tuberculosis drugs are obtained.

Task 39.

Girl 1 year 9 months. Life history: child from the 1st pregnancy, which occurred with toxicosis and anemia. Delivery at term, breech presentation. Weight – 3500 g, height – 51 cm. Breastfed for up to 2 months, sits from 6 months, walks from 12 months. She did not suffer from childhood infectious diseases.

Phthisiological history: vaccinated with BCG-M in the maternity hospital, scar 3 mm. Mantoux tests with 2 TE – 15mm, 6 months ago – 4mm.

Two years ago, the mother was diagnosed with infiltrative pulmonary tuberculosis with bacterial excretion. From the age of 2 months, the child was registered at the dispensary due to contact with the mother, and received one course of chemoprophylaxis. For examination and treatment she was admitted to a specialized children's department.

Objectively upon examination: the condition is satisfactory. Weight – 11300g, height – 81cm. Body temperature 36.7°C. The skin is pale, clean, periorbital cyanosis. Peripheral lymphadenopathy. The breathing in the lungs is puerile, there is no wheezing. Heart tones are clear and rhythmic. The abdomen is soft and painless. The liver protrudes from under the edge of the costal arch by 1.0 cm. The spleen is at the edge of the costal arch. No pathology was detected in other organs and systems.

Complete blood count: Hb – 108 g/l, erythrocytes – 3.1*1012/l, leukocytes – 8.4*109/l, e – 1%, p – 2%, s – 59%, l – 32% m – 6%, ESR – 20 mm/hour.

General urine analysis: color – light yellow, specific gravity – 1021, no protein, leukocytes – 2-3 p/zr, no red blood cells.

Mantoux reaction with 2TE – 13mm

Survey radiograph: the root of the right lung is expanded, its contours are blurred, the structure is not determined, the lumens of the bronchi are not differentiated.

1) Formulate a clinical diagnosis
2) What examination methods are needed to clarify the diagnosis?
3) Identify the factors contributing to the development of the disease in this patient.
4) What chemotherapy regimen should be prescribed?

Sample answer:

1) Tuberculosis of the intrathoracic lymph nodes with localization in the bronchopulmonary group of lymph nodes on the right, infiltration phase, MBT (-)
2) To clarify the diagnosis, it is necessary to prescribe SCT of the chest organs, fiberoptic bronchoscopy with examination of bronchial lavages for MBT, and examination of gastric lavages for MBT.
3) The development of tuberculosis in this child occurred as a result of contact with a mother who is sick with tuberculosis, the absencesecond coursechemoprophylaxis.
4) It is necessary to prescribe chemotherapy regimen I.

Task 40.

Patient A., 44 years old, was admitted to the clinic with complaints of fever up to 38.5°C, weakness, lack of appetite, fatigue, weak cough with a small amount of sputum, pain in the interscapular region, more on the right.

Lives with her daughter and three-year-old grandson in a one-room apartment.

Objectively: the condition is of moderate severity. The skin is pale, high humidity, persistent red dermographism. The positive Vorobyov-Pottenger symptom (pain in the shoulder girdle upon palpation) is more pronounced on the right. The chest is cylindrical in shape. On percussion there is a pulmonary sound above the lungs, a slight dullness of sound above the apex of the right lung; upon auscultation above the apex on the right after coughing, dry wheezing is detected. Heart sounds are muffled and rhythmic. The abdomen is soft and painless. The liver is at the edge of the costal arch, elastic, painless. Stool and urination are not impaired.

General blood test: erythrocytes 3.6*1012/l, Hb-115 g/l, leukocytes -12.8*109/l, e-3, p-8, s-58, l-17, m-14, ESR – 24 mm/h.

Sputum culture for MBT in the VASTES system was positive; resistance to isoniazid and rifampicin was detected.

X-ray: in S1, S2 of the right lung there is a rounded shadow of 2.0 * 3.0 cm, with indistinct, blurry contours, of medium intensity, heterogeneous in structure with areas of clearing, around the shadow there are foci of low and medium intensity

1) Formulate a diagnosis.
2) Which dispensary group does the patient have? The focus of what epidemic danger group is in this case?
3) What lobes and segments of the lung are most often affected by this disease?
4) Patient management tactics.

Sample answer:

1) Infiltrative tuberculosis S1-2 of the right lung, in the phase of disintegration and seeding, MBT +, MDR
2) Patients with active tuberculosis are observed in Group I of dispensary registration. The focus of tuberculosis infection in this case belongs to the first group of lesions.
3) Tuberculosis most often affects the upper lobe of the lung, the 1st, 2nd and 6th segments.
4) Mandatory hospitalization in an anti-tuberculosis hospital, sending an emergency notification to the CSES, anti-tuberculosis treatment.

Task 41.

Patient V., 35 years old. Complaints of low-grade fever, weakness, increased sweating, especially at night, fatigue, and a slight dry cough. The disease began gradually. Ill for a month. Lives alone in a one-room apartment.

On examination: the condition is of moderate severity. Asthenic physique. Body temperature 37.1°C. The skin is clean and pale. Peripheral lymph nodes are not palpable. Zev is clean. The chest is cylindrical in shape. On percussion there is a pulmonary sound above the lungs, a slight dullness of the pulmonary sound above the apex on the right. Breathing is vesicular, on the right, in the upper parts against the background of hard breathing, isolated dry rales are heard. Heart sounds are muffled and rhythmic. Stool and urination are not changed.

General blood test: erythrocytes 3.5*1012/l, Hb-105 g/l, leukocytes -8.1*109/l, e-3, p-6, s-59, l-18, m-14, ESR – 24 mm/h.

Mantoux reaction: papule 9 mm.

Mycobacterium tuberculosis, sensitive to the main anti-tuberculosis drugs, was isolated in sputum by culture using the VASTES system.

X-ray: on the right in S2, against the background of a blurred pulmonary pattern, polymorphic foci with a diameter of 5-9 mm, with blurred contours, a tendency towards fusion of foci and disintegration is expressed.

1) Formulate a preliminary diagnosis.
2) What disease should be considered for differential diagnosis first?
3) Is a negative sputum test result for MBT a basis for excluding the tuberculosis process?
4) Which accounting group should this patient be in? The focus of what epidemic danger group is in this case?
5) What treatment should be prescribed?

Sample answer:

1) Focal tuberculosis S2 of the right lung in the infiltration phase, MBT (+).
2) Focal tuberculosis is primarily differentiated from focal pneumonia.
3) The absence of Mycobacterium tuberculosis in sputum is not a basis for excluding the tuberculosis process.
4) A patient with an active tuberculosis process in the lungs should be in Group I of dispensary registration. The focus of tuberculosis infection in this case belongs to the first group of lesions.
5) It is necessary to prescribe regimen I chemotherapy.

Task 42.

Patient M., 23 years old, student. He has been registered at the anti-tuberculosis dispensary for 1.5 years with a diagnosis of infiltrative tuberculosis of the upper lobe of the left lung in the phase of resorption and thickening, MBT (-). She was treated in hospital for 8 months. The treatment is effective: partial resorption of infiltrative changes has been achieved,bacterial excretion stopped. 10 months after detection pregnancy occurred. Pregnancy and childbirth proceeded without complications. On the 7th day after birth, deterioration in health appeared: weakness, sweating at night, fever up to 39°C with chills, dry cough, severe shortness of breath.Objectively: the patient's condition is moderate. Lip cyanosis. Peripheral lymph nodes are not enlarged. Breathing in the lungs is weakened, with isolated dry wheezing.

NPV 30 per 1 min. Heart sounds are rhythmic, pulse 110 per minute, blood pressure - 100/60 mm Hg. The abdomen is soft, painless on palpation.

A plain X-ray of the lungs revealed low-intensity polymorphic focal shadows up to 10 mm in diameter across all pulmonary fields; the pulmonary pattern was depleted. In the upper lobe of the left lung there are polymorphic foci with fairly clear contours and high density. The root is structural, not enlarged. The mediastinal shadow is normal. The sinuses are free.

General blood test: erythrocytes - 3.2 * 1012/l, Hb - 110 g/l, Cv.p - 1.0, leukocytes - 10.2 * 109/l, e - 2%, p/i - 14 %, s/y - 66%, l - 16%, m - 2%, ESR - 30 mm/hour.

Acid-fast mycobacteria (AFB+) were detected once using light bacterioscopy.

1) Formulate a preliminary diagnosis.
2) List additional examination methods.
3) Decide on the possibility of breastfeeding.
4) Indicate the activities in the outbreak that need to be carried out before the child is discharged.

Sample answer:

1) Acute disseminated (miliary) pulmonary tuberculosis in the infiltration phase, MBT+
2) Spiral computed tomography of the chest, sputum cultures for MBT three times, sputum PCR, skin test with recombinant tuberculosis allergen.
3) Breastfeeding is prohibited and separation of mother and child is necessary.
4) Fluorographic examination of family members, final disinfection.

Task 43.

A 2-year-old child was admitted to the children's department of the anti-tuberculosis dispensary with an acute illness, with a temperature of 39°C. The child grew up in a single-parent family. He was vaccinated at the maternity hospital, there is no scar on his left shoulder. Mantoux test at 1 year and 2 years is negative. The child has poor nutrition, is lagging behind in physical development, and is pale. Peripheral lymph nodes are not enlarged. Hard breathing is heard. There is moderate leukocytosis and lymphopenia in the blood. Mycobacterium tuberculosis was detected in sputum using fluorescent microscopy. A plain radiograph shows bilateral small-focal changes throughout all lung fields.

1) Evaluate the effectiveness of vaccination.

2) What clinical form of tuberculosis does the clinical and radiological picture correspond to in this child?
3) What additional research methods need to be carried out?
4) What chemotherapy regimen should be prescribed?
5) Which dispensary registration group is this child subject to observation?

Sample answer:

1) Vaccination is ineffective, since the Mantoux test is negative at 1 and 2 years of age.
2) Miliary pulmonary tuberculosis.
3) SCT of the chest organs, sputum PCR, sputum culture for MBT on liquid and solid media.
4) It is necessary to prescribe regimen I chemotherapy.
5) I group of dispensary registration.

Task 44.

Evaluate the results of mass tuberculin diagnostics for children aged 7 years before BCG revaccination: out of 20 children who underwent the Mantoux test with 2 TE, 10 children had a negative test, 2 had a hyperergic test, and 8 had a normergic test.

1) Which children are subject to revaccination?
2) Who needs additional examination by a pediatrician?
3) Which children should be monitored by a TB specialist?

Sample answer:

1) 10 children with a negative tuberculin test are subject to revaccination.
2) Two children with a hyperergic test need to undergo a clinical and radiological examination in a children's clinic and be referred for consultation to a phthisiatrician.
3) In children with a normergic test, analyze the data of tuberculin tests in previous years, after which children with a change in the tuberculosis test and an increase in the diameter of the papule by 6 mm or more are also referred for consultation to a phthisiatrician.

Task 45.

Patient M., 22 years old, student. He was admitted to the tuberculosis hospital with complaints of weakness, fever, and coughing. Contact with tuberculosis patients has not been established. Considers himself sick for 2 months, when weakness, fever up to 37.6°C, intermittent cough with

a small amount of mucous sputum. He was treated as an outpatient with a diagnosis of ARVI without clinical improvement. Objectively: general condition is satisfactory, body temperature is 37.3°C. On the left above the collarbone there is a shortening of the percussion sound, vesicular breathing. Heart sounds are rhythmic, clear, pulse 80 per minute, blood pressure 120/80 mm Hg. The abdomen is soft, painless on palpation. The liver is at the edge of the costal arch.

General blood test: erythrocytes - 3.9*1012/l, hemoglobin - 110 g/l, color count - 0.87, leukocytes - 7.4*10 9/l, e-3, p/i - 2 %, s/y - 71%, l - 25%, m - 2%; ESR-16 mm/hour.

Survey X-ray of the chest organs: on the right in S1, a few low-intensity foci up to 1.0 cm in size with unclear contours are identified. The roots are not enlarged, the cardiac shadow corresponds to the age norm.

1) Make a preliminary diagnosis.
2) Interpret the result of the complete blood count.
3) Order additional tests to clarify the diagnosis.

Sample answer:

1) Focal tuberculosis S1 of the right lung in the infiltration phase, MBT (-)
2) Decrease in the number of red blood cells and hemoglobin, slight increase in ESR.
3) SCT of the chest organs, examination of sputum and bronchial lavage for MBT using all methods (bacterioscopy, PCR, culture on liquid and solid media), test with recombinant tuberculosis allergen.

Task 46.

Boy, 6 years old. He was admitted to the hospital with complaints of headache, vomiting, which did not bring relief, an increase in temperature to 39º C. From the anamnesis: he was ill for two weeks, when weakness, sweating, dry cough appeared, the temperature increased to low-grade levels, then a headache appeared, vomiting, convulsions were noted twice.

A child from the 9th pregnancy, birth weight 3600 g, vaccinated with BCG in the maternity hospital, no scar. The family is socially disadvantaged; the father suffers from disseminated tuberculosis MBT (+).

Mantoux test with 2 TE – papule – 9 mm.

On examination: the condition is serious, conscious, the position is forced: lying on its side, head thrown back, legs brought to the stomach. The skin is pale, dry, subcutaneous fat is poorly developed. Breathing is harsh, respiratory rate is 44 per minute, heart sounds are muffled, rhythmic, heart rate is 138 per minute. Severe neck rigidity, positive Brudzinski sign superior and inferior,

positive Kernig sign, convergent strabismus, the right palpebral fissure is narrowed, the left corner of the mouth is lowered.

Complete blood count: red blood cells - 3.2*1012/l, hemoglobin - 108 g/l, color count - 1.0, leukocytes

– 6.9 * 109/l, e – 1%, p/y - 6%, s/y - 62%, l - 29%, m - 2%, ESR-27 mm/hour.

A plain X-ray of the chest organs shows an increase in the pulmonary pattern, the roots of the lungs are expanded and structureless.

Lumbar puncture - cerebrospinal fluid under increased pressure, flows out in a stream, color - light yellow, fibrin film fell out when standing. Cytosis – 320, lymphocytes – 87%, protein – 9.9 g/l, Pandi reaction (+++), AFB not detected, sugar – 1.8 mmol/l, chlorides – 86.8 mmol/l.

1) What disease should you think about?
2) What risk factors for the development of this pathology are there in this case?
3) Evaluate the result of the cerebrospinal fluid study.
4) Determine where your child will be treated.

Sample answer:

1) You need to think about tuberculous meningitis.
2) In this case, the risk factors are the following: close (family) contact with a father with tuberculosis, living in a socially disadvantaged family.
3) The composition of the cerebrospinal fluid is characteristic of the tuberculous etiology of meningitis: lymphocytic cytosis, fibrin film, large amounts of protein, low levels of sugar and chlorides.
4) Treatment of the child in the intensive care unit of a specialized tuberculosis hospital until the condition stabilizes.

Task 47.

Girl, 11 years old. She was admitted to the hospital with complaints of pain in the right half of the chest, fever up to 39.5º C, shortness of breath on exertion, dry cough, and weakness.

Child from the 1st pregnancy, birth weight 2900 g, vaccinated with BCG in the maternity hospital, scar 5 mm, Mantoux test 1 year ago - papule 6 mm, upon admission - papule 16 mm with a vesicle. In the family, the grandmother was diagnosed with disseminated pulmonary tuberculosis, MBT (+).

Objectively: the condition is of moderate severity. The skin is pale. The subcutaneous tissue is developed satisfactorily, the cervical, submandibular, supraclavicular and axillary lymph nodes, enlarged to 1.0 cm, are palpable, densely elastic,

mobile, painless. The right half of the chest lags behind in the act of breathing, respiratory rate is 32 per minute. On percussion there is dullness in the lower parts on the right, and breathing there is sharply weakened. Heart sounds are clear, rhythmic, heart rate - 116 per minute. The abdomen is soft and painless.

General blood test: red blood cells - 3.2*1012/l, hemoglobin - 118 g/l, color code. - 1.0, leukocytes - 5.7 * 109/l, e - 1%, p/y - 6%, s/y - 55%, l - 35%, m - 3%, ESR - 33 mm/hour .

A plain X-ray of the chest organs shows intense darkening on the right with an oblique upper border to the level of the IV rib, the mediastinum is shifted to the left.

Pleural puncture: 530 ml of straw-yellow liquid obtained, specific gravity
– 1020, protein – 21 g/l, Rivalta test – (++), lymphocytes in large quantities, glucose
– 2.5 mmol/l, MBT – not detected.

1) Formulate a preliminary diagnosis.
2) Based on what data can one assume the etiology of the disease?
3) What studies can be ordered to verify the diagnosis?

Sample answer:

1) Exudative pleurisy of tuberculous etiology?
2) In favor of tuberculosis etiology are the child's contact with a patient with tuberculosis, positive results of immunological tests, the characteristic composition of the pleural fluid (a large number of lymphocytes, low glucose content) and the age of the patient.
3) To verify the diagnosis, cultures should be prescribed on solid and liquid media for MBT of sputum and pleural fluid. If the results of bacteriological examination of pleural fluid and sputum are negative, a video-assisted thoracoscopic biopsy followed by a morphological examination is necessary.

Task 48.

Girl, 1 year 8 months. She was admitted to the hospital with complaints of an increase in temperature to 39-40ºC, a sharp dry cough, shortness of breath at rest. From the anamnesis - a child from the 2nd pregnancy, birth weight 2150 g. Vaccinated with BCG-M upon discharge from the neonatal pathology department, no scar. At 12 months - Mantoux test - 13 mm papule, in the hospital - 10 mm. The mother was diagnosed with infiltrative tuberculosis of the right lung in the decay phase, MBT (+).

Objectively, the child's condition is serious. The skin is pale, dry, subcutaneous fatty tissue is poorly developed. All groups of peripheral lymph nodes are palpated,

small, tightly elastic, mobile, painless, tissue turgor is reduced. The wings of the nose participate in breathing, and there is a retraction of the jugular fossa and intercostal spaces. NPV – up to 56 per 1 minute, breathing is harsh, dry scattered wheezing. Heart sounds are muffled, rhythmic, heart rate - 136 per minute. The abdomen is soft, painless on palpation. The liver is 2.5 cm below the edge of the costal arch.

General blood test: red blood cells - 3.2*1012/l, hemoglobin - 85 g/l, color code. – 0.8, leukocytes – 6.4*109/l, e – 1%, p/i – 2%, s/i – 54%, l – 42%, m – 1%, ESR – 30 mm/hour .

A plain X-ray of the chest organs shows finely focal dissemination on both sides, mainly in the upper and middle sections, the roots are expanded and structureless.

1) Make a preliminary diagnosis.
2) Determine the main radiological syndrome.
3) Evaluate the effectiveness of BCG vaccination.
4) Determine where your child will be treated.

Sample answer:

1) Acute disseminated (miliary) pulmonary tuberculosis, MBT (-)
2) Small focal dissemination syndrome.
3) It can be assumed that BCG vaccination is ineffective, so

   HowThere is no post-vaccination scar.
4) Treatment of the child should be carried out in the intensive care unit

   specialized tuberculosis hospital until the condition stabilizes.

Task 49.

Girl, 16 years old. She was admitted to the hospital with complaints of cough with mucopurulent sputum, fever up to 37.4ºC, shortness of breath on exertion, weakness, and sweating. She was sick for 2 months, did not seek medical help, was treated at home with antibiotics, without effect.

From the anamnesis: for 3 years she was observed by a phthisiatrician through contact with her father (fibrous-cavernous pulmonary tuberculosis, MBT (+)), and received preventive treatment with isoniazid. Vaccinated with BCG in the maternity hospital, revaccination with BCG at the age of 7, on the left shoulder there are 2 scars of 5 mm each. Mantoux test – 21 mm on admission.

Objectively: the condition is of moderate severity. Reduced nutrition. The skin is pale and clean. Cervical, subclavian, supraclavicular, axillary lymph nodes are palpated, up to 1.0 cm in size, tightly elastic, mobile,

painless. NPV –28 per minute. Breathing is vesicular, weakened in the upper right parts, and dry wheezing there. Heart sounds are clear, rhythmic, heart rate –96 per minute.

General blood test: red blood cells - 3.5*1012/l, hemoglobin - 98 g/l, color code. – 0.84, leukocytes – 9.0*109/l, e – 1%, p/y - 1%, s/y - 75%, l - 22%, m - 1%, ESR-30 mm/hour .

A plain X-ray of the lungs shows in the upper lobe of the right lung a darkened area of 4.0*5.0 cm with fuzzy contours, a decay cavity in the center, around and in the lower parts of the right lung there are foci of low and medium intensity.

MBT was found in sputum culture; when cultured, it was resistant to streptomycin, isoniazid, rifampicin, and ethambutol.

1) Evaluate the result of the sputum examination.
2) Make a preliminary diagnosis.
3) Determine where the patient will be treated.
4) What treatment regimen should be prescribed?

Sample answer:

1) Isolation of MBT has been proven and a resistant form of tuberculosis has been identified.
2) Infiltrative tuberculosis of the upper lobe of the right lung in the phase of disintegration and seeding, MBT (+), MDR
3) Treatment must be carried out in a hospital.
4) Regimen for the treatment of MDR tuberculosis.

Task 50.

Girl, 9 months. Over the past 4 weeks, the mother has noted the appearance of a purplish-red formation in the left armpit, which is moderately painful. During the same period, there was an increase in temperature to 37.5ºC, weakness, lethargy, and decreased appetite. Subsequently, the formation opened on its own, with the discharge of a cheesy discharge.

From the anamnesis: a child from the 2nd pregnancy, premature birth through surgery at 32 weeks. Body weight at birth was 1500 g. She was observed by a neurologist with a diagnosis of perinatal damage to the central nervous system. At the age of 5 months, a Mantoux test was done, the result was negative, then she was vaccinated with BCG-M, there is a 5 mm scar.

On examination: condition is satisfactory. Subcutaneous fat tissue is poorly developed. Breathing is puerile, no wheezing. Heart sounds are clear and rhythmic. The abdomen is painless. In the left axilla, a formation up to 1.5 cm in diameter is palpated, of dense elastic consistency, moderately painful, there is a fistulous tract, discharged in the form of crumbly pus.

General blood test: red blood cells - 3.8*1012/l, hemoglobin - 115 g/l, color code. – 0.9, leukocytes – 7.7*109/l, e – 1%, p/y - 1%, s/y - 58%, l - 39%, m - 1%, ESR -26 mm/hour .

General urine analysis - without pathology.

Culture of the discharge for non-specific microflora - no growth.

Culture of the discharge for MBT - up to 100 colonies of MBT were detected.

1) Formulate a diagnosis.
2) What should be the tactics for managing a child?

Sample answer:

1) Complicated course of BCG vaccination. Axillary left side lymphadenitis.
2) Consultation with a phthisiosurgeon, treatment is carried out anti-tuberculosisdrugs, oral and local treatment.

Task 51.

Girl, 4 years old. She was admitted to the hospital with complaints of poor appetite, malaise, sweating, and an unproductive cough. Has been ill for four months. A child from a close family contact with a grandfather who has tuberculosis (fibrocavernous pulmonary tuberculosis, MBT (+))

From the anamnesis: a child from IV pregnancy, III birth, birth weight - 2680 g, discharged from the maternity hospital with a diagnosis of perinatal damage to the central nervous system, stage I intrauterine growth retardation, vaccinated with BCG-M vaccine at the age of 1 month, scar 3 mm. Mantoux test at the age of 1 year – papule 10 mm; 4 years – papule 17 mm.

On examination, the condition is satisfactory, the skin is pale, the subcutaneous fat is thinned, body weight is 12 kg, all groups of peripheral lymph nodes are palpable, densely elastic, mobile, painless, not enlarged. Breathing in the lungs is harsh, there is no wheezing, respiratory rate is 26 per minute. Heart sounds are clear, rhythmic, heart rate - 100 per minute. The abdomen is soft and painless.

General blood test: red blood cells - 3.8*1012/l, hemoglobin - 111 g/l, color. – 0.9, leukocytes – 4.6*109/l, e – 3%, p/y - 2%, s/y - 64%, l - 28%, m - 3%, ESR -22 mm/hour .

General urine analysis - no pathological changes.

Sputum analysis using fluorescent microscopy - no AFB detected.

A plain X-ray of the chest organs shows that the root on the right has little structure, is dilated, and the bronchopulmonary lymph nodes are enlarged.

1) Evaluate the results of Mantoux tests.
2) Make a preliminary diagnosis.

3) What additional studies need to be ordered?

Sample answer:

1) There are no data available for Mantoux samples at 2 and 3 years. According to the data presented, there is an increase in sensitivity to tuberculin.
2) Tuberculosis of the intrathoracic lymph nodes on the right, infiltration phase, MBT (-).
3) SCT of the chest organs, test with recombinant tuberculosis allergen, studies of bronchial lavages, gastric lavages, sputum for MBT (cultures on liquid and solid media, PCR).

Task 52.

Boy, 11 months. Complaints upon admission: fever up to 37.4ºC, coughing, poor appetite, weight loss. From the anamnesis: the child stopped sitting at 7 months, became lethargic, and lost weight. The child's father died of tuberculosis (fibrocavernous pulmonary tuberculosis, MBT (+)).

From the life history: a child from the sixth pregnancy, fourth birth, birth weight 2200 g, perinatal damage to the central nervous system. BLC is not vaccinated. Mantoux test at 11 months - papule 9 mm.

Objectively: the condition is serious. The skin is pale, body weight is 5700g. All groups of peripheral lymph nodes are palpated, small, tightly elastic, mobile, painless, respiratory rate -56 per minute. The wings of the nose are involved in breathing, and there is a retraction of the intercostal spaces. With comparative percussion, dullness of the pulmonary sound on the left in the lower sections along the axillary and scapular lines is determined. In the lungs, breathing is harsh, weakened on the left in the lower sections. Heart sounds are muffled, rhythmic, heart rate - 136 per minute. The abdomen is soft, painless on palpation.

General blood test: red blood cells - 2.83*1012/l, hemoglobin - 68 g/l, color. – 0.9, leukocytes – 8.6*109/l, e – 1%, p/i – 2%, s/i – 47%, l – 48%, m – 2%, ESR – 13 mm/hour .

Culture of gastric lavage water for MBT is 3 times positive (growth of 1-19 colonies). Drug resistance of MBT to streptomycin, isoniazid, ethambutol.

Computed tomography of the chest organs: in S4–S5 (lingular segments) on the left, inhomogeneous infiltration of lung tissue of medium intensity is determined. The roots are non-structural, enlarged, and the bronchopulmonary lymph nodes on the left are enlarged.

1) Name the risk factors for developing tuberculosis in this child.
2) Evaluate the result of the Mantoux test.
3) Evaluate the result of the sputum examination.

4) Formulate a diagnosis.

Sample answer:

1) Close contact with a person with tuberculosis, lack of vaccination BCG,perinatal damage to the central nervous system.
2) The Mantoux reaction with 2 TE is positive.
3) Culture of gastric lavage water confirmed the isolation of MBT, and a resistant form of tuberculosis was identified.
4) Primary tuberculosis complex S 4-5 of the left lung in the infiltration phase, MBT (+), resistance to isoniazid.

Task 53.

Girl, age 6 months. She was admitted to the hospital with complaints of shortness of breath, unproductive cough, poor appetite, and low-grade fever. From the anamnesis: she has been ill for 3 weeks. A child from an asocial family, contact with an uncle with tuberculosis (fibrous-cavernous pulmonary tuberculosis, MBT (+), BCG not vaccinated. Mantoux test - papule 16 mm.

Child from the third pregnancy, second birth. Body weight at birth – 1860 g The child suffered: bronchopneumonia due to immaturity of the lung tissue, cerebral ischemia stage II. Weight 5000 g, height 62 cm.

Objectively: the condition is serious. The skin is pale, with a gray tint. The subcutaneous fatty tissue is thinned, the cervical and axillary lymph nodes are palpable,small, soft-elastic consistency. Inhalation involves auxiliary

muscles. On percussion on the right there is a pulmonary sound with a box-like tint, on the left paravertebral there is dullness of the pulmonary sound. In the lungs, breathing is harsh, weakened on the left. NPV – 80 per minute. Heart sounds are muffled, rhythmic, heart rate - 160 per minute. General blood test: red blood cells - 2.93*1012/l, hemoglobin - 95 g/l, color code. – 0.97, leukocytes – 10.8*109/l, e – 3%, p/y - 3%, s/y - 53%, l - 40%, m - 1%, ESR -19 mm/hour . General urine analysis - no pathological changes.

Plain X-ray of the chest organs: the upper lobe on the left is intensely darkened with a lower wavy contour, the bronchus of the upper lobe on the left is not differentiated. An increase in bronchopulmonary lymph nodes on the left is detected.

Bronchoscopy: the mouths of the main and lobar bronchi are passable on both sides. In the lumen of the main bronchus on the left there is foamy mucosa with a large amount of sputum. The bronchial mucosa is edematous, increased vulnerability.

Bronchial lavage tests for MBT are positive. Resistance to isoniazid, rifampicin, ethambutol, and prothionamide was detected.

1) Name the risk factors for developing tuberculosis.
2) Formulate a preliminary diagnosis.
3) What additional studies should be ordered?
4) What chemotherapy regimen should be prescribed in this case?

Sample answer:

1) Contact with an uncle suffering from bacterial tuberculosis, living in an asocial family, lack of BCG vaccination, prematurity, diseases suffered after birth.
2) Primary tuberculosis complex of the upper lobe of the left lung, complicated by tuberculosis of the main left bronchus, MBT (+), MDR.
3) Test with recombinant tuberculosis allergen, SCT of the chest organs.
4) A treatment regimen for multidrug-resistant tuberculosis should be prescribed.

Task 54.

Boy, 16 years old. He was sent for examination to a phthisiatrician with complaints of periodic cough with mucopurulent sputum, weakness, sweating, fever in the evenings up to 37.3º C. Ill for 3 weeks, the disease developed gradually.

From the anamnesis: a child from the 1st pregnancy, birth weight – 3600 g, vaccinated with BCG vaccine in the maternity hospital, revaccination at 7 years. There are 2 scars on the left shoulder, 5 and 7 mm.

A test with recombinant tuberculosis allergen upon admission - a 17 mm papule, at the age of 15 years - a 6 mm papule.

During an examination of the environment, disseminated pulmonary tuberculosis, MBT (+), was revealed in my uncle.

Objectively: the condition is satisfactory, the skin is of normal color, subcutaneous fat is moderately developed, peripheral lymph nodes are not enlarged. NPV – 18 per minute. Breathing is vesicular, no wheezing. Heart sounds are clear, rhythmic, heart rate - 78 per minute.

General blood test: red blood cells - 4.5*1012/l, hemoglobin - 135 g/l, color code. – 0.97, leukocytes – 7.8*109/l, e – 1%, p/y - 6%, s/y - 57%, l - 32%, m - 4%, ESR -32 mm/hour .

General urine analysis - no pathological changes.

No AFB were detected in sputum using a single bacterioscopy method.

On a plain X-ray of the chest organs: in the second segment of the upper lobe of the right lung, several focal shadows with unclear contours of medium intensity are identified. There is no fluid in the pleural cavities. The roots of the lungs are structural, not expanded.

1) Name the given conditions of the task that allow you to think about the diagnosis tuberculosis.
2) Evaluate the results and dynamics of the test with the tuberculosis allergen recombinant.
3) Formulate a preliminary diagnosis.
4) What additional studies are required to clarify the diagnosis?

Sample answer:

1) Contact with a patient with tuberculosis with bacterial excretion, positive test result with recombinant tuberculosis allergen.
2) Tests with recombinant tuberculosis allergen were positive at the age of 15, hyperergic at the age of 17. In dynamics, there is an increase in sensitivity to the recombinant tuberculosis allergen.
3) Focal tuberculosis S2 of the right lung in the infiltration phase, MBT (-)
4) Multiple studies of sputum and bronchial washings for MBT using all methods (bacterioscopy, PCR, cultures on liquid and solid media)

Task 55.

Patient R., 48 years old, disabled group II for tuberculosis. He has been registered at the tuberculosis dispensary for 5 years for chronic disseminated tuberculosis MBT (+). The disease progresses in waves. Over the last 3 days, his condition has worsened. Against the background of weakness, moderate shortness of breath, the body temperature increased and the cough intensified. During coughing attacks, there is a release of scarlet foamy blood up to 250 ml per day.

On examination: the patient has low nutrition, there is retraction of the supraclavicular and subclavian fossae on the right. The percussion sound over the upper lobe of the right lung is shortened. Over this zone, bronchial breathing and various moist rales are heard.

On a plain X-ray of the chest organs: the upper lobe is reduced in volume, in which a closed ring-shaped shadow of 3.0*4.0 cm with thick walls with foci around and in the lower lobe on the right is determined.

1) Formulate a clinical diagnosis.

2) What measures should be taken to stop bleeding?
3) List several drugs that can be used as hemostatic therapy.

Sample answer:

1) Chronic disseminated pulmonary tuberculosis in the phase of infiltration and decay, MBT (+). Complication: pulmonary hemorrhage.
2) To stop bleeding in a patient with tuberculosis, the optimal treatment is a combination of hemostatic drug therapy and bronchological examination to determine the source of bleeding, and if possible, followed by stopping.
3) Aminocaproic acid 5% solution - intravenous drip, dicinone 12.5% solution intramuscularly or intravenously, tranexamic acid 5% solution intravenous drip.

Task 56.

Patient L., 17 years old. Changes in the lungs were detected during fluorographic examination. I was bothered by a nonproductive cough and increased fatigue for two months; I did not seek medical help. He had not previously undergone a chest X-ray examination.

The condition is satisfactory. An objective examination revealed no pathology. General blood and urine tests are within normal limits.

Test with recombinant tuberculosis allergen – papule 16 mm. No AFB was detected in sputum using bacterioscopy once.

On a plain X-ray of the chest organs: in the upper lobe of the left lung there is a subpleural homogeneous rounded darkening up to 2.5 cm in size with clear outer contours and a narrow path to the root of the lung. There are isolated small focal shadows in the surrounding tissue.

1) Name the main radiological syndrome.
2) Evaluate the sample with recombinant tuberculosis allergen.
3) What diseases should be included in the differential diagnostic series first?
4) What additional consultations and studies are required to clarify the diagnosis?

Sample answer:

1) Round shadow syndrome in the lungs.

2) Lung tuberculoma, lung cancer, benign lung neoplasms, hydatid cyst.
3) The test with recombinant tuberculosis allergen is hyperergic.
4) Consultation with an oncologist, phthisiatrician, SCT of the chest organs, examination of sputum and bronchial lavages repeatedly for MBT using all methods (bacterioscopy, PCR, cultures on liquid and solid media).

Task 57.

Patient V., 56 years old, complained of pain when swallowing, hoarseness, cough with mucopurulent sputum up to 50 ml per day, shortness of breath when walking, weakness, weight loss. The above symptoms gradually increased over 1.5 years, and over the last 2 months the temperature began to rise to 38.0°C. I was treated with home remedies without effect. I have not undergone fluorography for many years.

The patient's condition is moderate, acrocyanosis, respiratory rate is 28 per minute. In the lungs, percussion in the lower sections there is a box sound. Auscultation - in the upper parts of the breath is hard, medium bubbly moist rales. Heart rate – 92 per minute, blood pressure – 110/80 mm Hg. Examination by an otolaryngologist: the larynx is moderately hyperemic, the right arytenoid cartilage is enlarged in volume, and there is a small ulcer with a whitish coating. General blood test: red blood cells - 3.9*1012/l, hemoglobin - 118 g/l, color code. – 0.9, leukocytes – 10.9*109/l, e – 0%, p/y - 13%, s/y - 70%, l - 11%, m - 6%, ESR -36 mm/hour .

The test with recombinant tuberculosis allergen is negative.

Large quantities of AFB were found in sputum using bacterioscopy.

A plain X-ray of the chest organs shows signs of pneumosclerosis on both sides, and emphysema in the lower sections. Along the fields there are scattered focal and focal shadows of a confluent nature, in the upper sections there are multiple “stamped” decay cavities, up to 2.5 cm in diameter. The roots of the lung are shifted upward, the heart is in the form of a “hanging drop”. Pleuroapical and pleurocostal layers.

1) Based on what data can one assume the etiology of the disease?
2) Formulate a clinical diagnosis.
3) What complication developed in the patient?
4) What examination is necessary to clarify the diagnosis?
5) What treatment tactics are appropriate in this case?

Sample answer:

1) In favor of tuberculosis etiology: detection of AFB in sputum, gradual development of the disease, complaints suspicious for tuberculosis, characteristic x-ray picture.
2) Chronic disseminated pulmonary tuberculosis in the phase of infiltration and decay, MBT (+).
3) Laryngeal tuberculosis can be suspected.
4) SCT of the chest organs, examination of sputum by culture on liquid and solid media, PCR for MBT DNA followed by testing the sensitivity of MBT to anti-tuberculosis drugs.
5) It is advisable to prescribe a chemotherapy regimen after obtaining the results of the sensitivity of MBT to anti-tuberculosis drugs; in addition, local treatment of laryngeal tuberculosis is necessary.

Task 58.

Patient D., 17 years old, student, was admitted to the therapeutic department with complaints of an increase in body temperature to low-grade levels, periodic paroxysmal dry cough, and weakness. Considers himself sick for 3-4 weeks. Had periodic contact with patients with pulmonary tuberculosis for three years.

On objective examination: decreased nutrition, erythema nodosum on both sides of the legs. During percussion in the interscapular region on the right, a shortening of the pulmonary sound is noted; on auscultation, intermittent moist rales are heard over this area.

General blood test: red blood cells - 4.5*1012/l, hemoglobin - 123 g/l, color code. – 0.82, leukocytes – 5.6*109/l, e – 3%, p/y - 2%, s/y - 58%, l - 27%, m - 10%, ESR -20 mm/hour .

On a plain X-ray of the chest organs: the structure of the right root is not clearly defined, its shadow is expanded with a vague outer border. Lung fields without focal and infiltrative shadows.

Test with recombinant tuberculosis allergen – papule 22 mm.

No AFB was detected in sputum using fluorescence microscopy.

1) Make a preliminary diagnosis.
2) Evaluate the result of the test with the recombinant tuberculosis allergen.
3) How to explain the presence of erythema nodosum on the legs?
4) What additional studies need to be ordered?
5) In which follow-up group should the patient be observed?

Sample answer:

1) Tuberculosis of intrathoracic lymph nodes in the infiltration phase, MBT (-)
2) The test with recombinant tuberculosis allergen is hyperergic.
3) This is a paraspecific reaction to active tuberculosis infection.
4) SCT of the chest organs, examination of sputum, bronchial lavages for MBT by all methods repeatedly (bacterioscopy, PCR, cultures on liquid and solid media)
5) I group of dispensary observation.

Task 59.

Patient R., 15 years old. He was admitted to the hospital with complaints of weakness, sweating, pain in the right half of the chest, aggravated by breathing, and low-grade body temperature.

From the anamnesis: a child from the 2nd pregnancy, birth weight – 3100 g, vaccinated with BCG in the maternity hospital, scar 5 mm. Mantoux test 1 year ago - papule 7 mm, upon admission - papule - 18 mm with a vesicle. In the family, an uncle was diagnosed with infiltrative pulmonary tuberculosis, MBT (+).

Objectively: the condition is of moderate severity. The skin is pale. Subcutaneous tissue is developed satisfactorily, peripheral lymph nodes of the second and third order in 3 groups, densely elastic, mobile, painless. The right half of the chest lags behind when breathing, the percussion sound is shortened in front from the 4th rib and below, in the back

– from the angle of the scapula. Breathing is not audible over this zone. The liver is at the edge of the costal arch.

General blood test: red blood cells - 4.5*1012/l, hemoglobin - 134 g/l, color code. – 0.89, leukocytes – 7.6*109/l, e – 2%, p/y - 1%, s/y - 60%, l - 27%, m - 10%, ESR -30 mm/hour .

Mantoux test with 2 TE – papule 22 mm.

X-ray: to the right from the third intercostal space to the diaphragm there is intense homogeneous shading with a concave upper border. The heart shadow is moderately shifted to the left.

Pleural puncture: 1200 ml of straw-yellow fluid was obtained. When analyzing the liquid: MBT (-), specific gravity 1021, protein 41 g/l, Rivalta test (++), lymphocytes - 90%.

1) Formulate a clinical diagnosis.
2) Justify the tuberculosis etiology of the disease.
3) What examination methods allow you to verify the diagnosis?

Sample answer:

1) Right-sided exudative pleurisy of tuberculous etiology, MBT (-).

2) In favor of tuberculosis etiology: contact with a patient with tuberculosis, hyperergic test with recombinant tuberculosis allergen, characteristic composition of pleural fluid, age of the patient.
3) To verify the diagnosis, cultures should be prescribed on solid and liquid media for MBT of sputum and pleural fluid. If the results of bacteriological examination of pleural fluid and sputum are negative, a video-assisted thoracoscopic biopsy followed by a morphological examination is necessary.

Task 60.

Boy, 16 years old, student. For the first time, during a medical examination, a fluorogram revealed focal shadows up to 0.8 cm in size, of low intensity in the peripheral part of the second segment of the right lung. The roots of the lungs are not changed. The pulmonary pattern is not deformed. He makes no complaints. According to the patient, pulmonary tuberculosis was detected in one of his classmates.

Objectively: the condition is satisfactory. The skin is pale. Peripheral lymph nodes are not enlarged. Percussion and auscultation of the lungs revealed no pathological changes.

Test with recombinant tuberculosis allergen – papule 17 mm. Complete blood count and general urinalysis - no pathological changes.

Sputum tests using fluorescent microscopy three times - no AFB detected.

1) Formulate a preliminary diagnosis.
2) Evaluate the sample with recombinant tuberculosis allergen.
3) What additional studies are required to clarify the diagnosis?
4) Determine where the patient will be treated. Can the entire course of treatment be carried out on an outpatient basis?

Sample answer:

1) Focal tuberculosis S2 of the right lung in the infiltration phase, MBT (-).
2) The test with recombinant tuberculosis allergen is hyperergic.
3) SCT of the chest organs, examination of sputum, bronchial lavages for MBT by all methods repeatedly (bacterioscopy, PCR, cultures on liquid and solid media)

4) The intensive phase of treatment should be carried out in an inpatient tuberculosis dispensary. Once positive dynamics are achieved, it is possible to continue treatment in a day hospital or on an outpatient basis.

Task 61.

Boy, 6 years old. At an appointment with a phthisiatrician with my mother on a referral from kindergarten.

Does not make any complaints when contacted.

From the anamnesis: a child from the second pregnancy, body weight at birth – 3500 g, length – 50 cm. In the maternity hospital received the BCG vaccine - scar 6 mm.. Mantoux test with 2 TE at the age of 1 year

– papule 12 mm; 2 years – papule 10 mm, 3 years – papule 8 mm, 4 years – papule 6 mm, 5 years – negative, 6 years – papule 9 mm.

Upon examination, the condition is satisfactory, the skin and visible mucous membranes are clean, of normal color and moisture. Subcutaneous fatty tissue is moderately developed. Peripheral lymph nodes accessible to palpation are not enlarged. Weight – 18 kg, respiratory rate –20 per minute. Vesicular breathing, heart rate – 100 per minute. Heart sounds are clear and rhythmic. The abdomen is soft, painless on palpation.

General blood test: red blood cells - 4.2*1012/l, hemoglobin - 125 g/l, color code. – 0.89, leukocytes – 4.6*109/l, e – 3%, p/y - 2%, s/y - 64%, l - 28%, m - 3%, ESR -10 mm/hour .

General urine analysis - no pathological changes.

Sputum analysis using fluorescent microscopy three times - no AFB detected.

A plain X-ray of the chest organs shows the lung fields without focal and infiltrative changes, the roots of the lungs are not enlarged, they are structural.

1) Assess the dynamics of tuberculin tests.
2) What anamnesis data needs to be clarified?
3) What additional examination should be prescribed to the child to clarify the diagnosis?
4) What diagnosis can you think about in this case?

Sample answer:

1) Post-vaccination allergies from 1 year to 4 years, at 6 years – a change in tuberculin tests.
2) It is necessary to clarify information about past tuberculosis among family members, the presence of tuberculosis in blood relatives, contacts with tuberculosis patients, and the presence of risk factors for tuberculosis in this child.

3) SCT of the chest organs, test with recombinant tuberculosis allergen or (or alternative in vitro tests), sputum cultures on liquid and solid media, sputum PCR for MBT DNA.
4) Latent tuberculosis infection.

Task 62.

An elderly man on the street suddenly developed pain in the left half of the chest radiating to the neck and left arm, as well as shortness of breath. On examination: shortness of breath, shallow breathing, cyanosis of the skin and mucous membranes, pulse - tachycardia, arrhythmia; the left half of the chest lags behind during breathing: with percussion

– box sound over the left half of the chest, the heartbeat is shifted to the right; breathing on the left side of the chest is weakened.

Delivered by ambulance to the emergency room of the district hospital. When collecting an anamnesis, it turned out that a 12-year-old patient was registered with a phthisiatrician with a diagnosis of fibrous-cavernous tuberculosis. He interrupted treatment several times, explaining this by poor tolerability of anti-tuberculosis drugs.

1) What complication developed in the patient? Justify your answer.
2) What are the patient management tactics in this case?

Sample answer:

1) The patient has spontaneous pneumothorax. In favor of this diagnosis: pain in the left half of the chest, weakened breathing, tachycardia, the condition worsened suddenly. Spontaneous pneumothorax is a common complication of fibrous-cavernous pulmonary tuberculosis.
2) After relief of the emergency condition caused by spontaneous pneumothorax, the patient should be transferred to the surgical department of the anti-tuberculosis dispensary.

Task 63.

Patient A., 28 years old. Complains of weakness, sweating, pain in the right half of the chest, aggravated by breathing, low-grade body temperature. Weakness and sweating appeared more than two months ago.

Objectively: respiratory rate – 28 per 1 min, heart rate – 100 per 1 min. The right half of the chest lags behind in the act of breathing, the percussion sound is shortened in front from the 4th rib and below, in the back - from the angle of the scapula. Breathing is not audible over this zone. The liver is at the edge of the costal arch.

General blood test: red blood cells - 4.2*1012/l, hemoglobin - 134 g/l, color. – 0.96, leukocytes – 7.6*109/l, e – 2%, p/y - 1%, s/y - 60%, l - 27%, m - 10%, ESR -30 mm/hour .

Test with recombinant tuberculosis allergen – 22 mm.

On a plain X-ray of the chest organs: to the right from the third intercostal space to the diaphragm there is intense homogeneous shading with a concave upper border. The heart shadow is moderately shifted to the left.

When performing a pleural puncture, 1200 ml of straw-yellow liquid was obtained. When analyzing the liquid: AFB (-), specific gravity 1021, protein 41 g/l, Rivalta test (++), lymphocytes - 85%. Lung fields without focal and infiltrative shadows.

1) Indicate the leading clinical and radiological syndromes.
2) What etiology of pleurisy can you think about and why?
3) Make a diagnosis according to the clinical classification.

Sample answer:

1) Pain syndrome, subtotal lung opacification syndrome.
2) Most likely, one can think of a tuberculous etiology of pleurisy; this diagnosis is supported by the patient's complaints characteristic of tuberculosis, the gradual development of the disease, lymphocytic cytosis of the pleural fluid, a hyperergic test with the recombinant tuberculosis allergen, and the patient's young age.
3) Right-sided exudative pleurisy of tuberculous etiology, MBT(-).

Task 64.

Patient E., 48 years old, was admitted to the differential diagnostic department of a tuberculosis hospital for additional examination and exclusion of the diagnosis of active tuberculosis.

Upon receipt of a complaint of a severe cough with the release of a scant amount of mucous sputum, a plain X-ray of the chest organs revealed a focal shadow up to 3.5 cm in diameter without clear contours in the upper lobe of the right lung. A course of broad-spectrum antibiotics was prescribed. As a result of a control X-ray examination after 14 days, partial resorption of the focal shadow was noted in the lungs. Its fragmentation began to appear, and focal shadows of low intensity began to appear along the periphery.

Culture of sputum for nonspecific flora did not give growth.

In 3 analyzes using fluorescent microscopy, acid-fast mycobacteria were not detected; cultures remain in use.

Bronchoscopy revealed catarrhal endobronchitis of the right upper lobe bronchus. In the bronchial wash, tumor cells and AFB were not detected by fluorescence microscopy; cultures for MBT remained in operation.

The patient's condition did not change; the cough decreased somewhat.

1) What further treatment and diagnostic measures should be taken?
2) Formulate a preliminary diagnosis?

Sample answer:

1) Anti-tuberculosis therapy, consultation with an oncologist, multiple sputum tests for MBT by culture on liquid and solid media, PCR of sputum for MBT DNA, and sputum examination to detect tumor cells should be prescribed.
2) Infiltrative tuberculosis of the upper lobe of the right lung, MBT (-).

Task 65.

Patient V., 45 years old, was admitted to the differential diagnostic department of a tuberculosis hospital for additional examination and exclusion of the diagnosis of active tuberculosis. From the anamnesis: she is registered with an infectious disease specialist for viral hepatitis C, and in the past suffered from optic neuritis. Bad habits: smokes one pack of cigarettes per day for more than 15 years.

Upon receipt of a complaint of a dry cough, weakness, and an increase in temperature to low-grade levels, a plain X-ray of the chest organs in the upper lobe of the left lung revealed a focal shadow up to 4.0 cm in diameter with clearing in the center, without clear contours and small foci around.

After 3 weeks from the start of examination and treatment of the patient, a positive culture result for MBT was obtained in the VASTES system, sensitivity to all anti-tuberculosis drugs was revealed. There were no noticeable changes in the patient’s well-being; the morning cough persisted (the woman continued to smoke).

1) Formulate the diagnosis according to the clinical classification.
2) What chemotherapy regimen should be prescribed?
3) List the drugs that are included in this regimen.
4) In the presence of severe liver dysfunction, which drug should be prescribed with caution?
5) If there is loss of the lateral visual fields, impaired color perception, and a history of optic neuritis, which drug should not be prescribed?

Sample answer:

1) Infiltrative tuberculosis of the upper lobe of the left lung in the phase of decay and seeding, MBT (+), sensitivity preserved
2) Treatment regimen for the treatment of sensitive tuberculosis.
3) Isoniazid, rifampicin, pyrazinamide, ethambutol
4) Rifampicin
5) Ethambutol

Task 66.

A 45-year-old man, a smoker, has had ARVI several times over the past 4 months. After treatment without antibiotics, he was discharged to work; he noted that weakness, slight sweating persisted, and the cough intensified. Fluorography was performed and a focal shadow of 2.0*3.0 cm was detected in the upper lobe of the right lung with unclear contours of medium intensity. Previously, I had fluorography 5 years ago, according to my words, it was the norm.
Complete blood count and urinalysis are within normal limits.

1) What disease can you think about first? Why?
2) What additional studies need to be ordered to clarify the diagnosis?
3) Make a preliminary diagnosis.

Sample answer:

1) Considering the patient's complaints suspicious of tuberculosis, the gradual development of the disease, and the X-ray picture characteristic of tuberculosis, one can think of pulmonary tuberculosis.
2) SCT of the chest organs, examination of sputum and bronchial lavage for MBT using all methods (bacterioscopy, PCR, culture on liquid and solid media, test with recombinant tuberculosis allergen.
3) Infiltrative tuberculosis of the upper lobe of the right lung, MBT (-)

Task 67.

A patient with long-standing stationary tuberculoma developed symptoms of intoxication: severe weakness, increased fatigue, cough with a scanty amount of mucous sputum, and in the evenings an increase in temperature to 37.2-37.3°C.

A plain X-ray of the chest organs revealed a perifocal reaction around the tuberculoma in the upper lobe of the right lung; a decay cavity of up to 1.0 cm in diameter appeared in it.

1) Formulate a clinical diagnosis.
2) What additional studies need to be ordered to clarify the diagnosis?
3) Is surgical treatment indicated in this case and when?

Sample answer:

1) Tuberculoma of the upper lobe of the right lung in the decay phase, MBT (-), late relapse.
2) SCT of the chest organs, examination of sputum, bronchial lavages for MBT using all methods (bacterioscopy, PCR, culture on liquid and solid media), test with recombinant tuberculosis allergen.
3) This clinical form of pulmonary tuberculosis, such as tuberculoma, is an indication for surgery. To decide on the timing of surgical treatment, a consultation with a thoracic surgeon is necessary.

Task 68.

Patient V., 45 years old, abuses alcohol and smokes. For several years he has had a cough with the release of a small amount of mucous sputum. Over the past 2-3 months the cough has gotten worse. After hypothermia, the condition sharply worsened: body temperature reached 40°C, chills, sweating, cough intensified, and the amount of sputum produced increased, which became purulent.

Objectively: dullness of percussion sound over the upper lobe of the right lung. In the suprascapular region on the right, above the angle of the scapula on the right and along the anterior axillary line at the lower left, a large number of moist medium- and large-bubble rales are heard.

Complete blood count: erythrocytes 3.4*1012/l, leukocytes 11.0*109/l, eosinophils - 3%, p/i - I0%, p/i - 68%, lymphocytes - 14%, monocytes - 5% , ESR – 52 mm/hour.

Sputum analysis using light microscopy revealed AFB++.

On a plain X-ray of the chest organs: in the reduced volume of the upper lobe of the right lung, an area of high-intensity darkening and a heterogeneous structure is determined due to foci and a decay cavity with a bay-shaped internal contour. In the lower lobe of the right lung and in the lingular segments of the left lung, medium and large lesions with unclear contours, medium

intensity, sometimes draining in nature. In the 10th segment on the right, another cavity with thick walls is identified.

1) Name the most likely diagnosis.
2) What given conditions of the problem allow us to make such a diagnosis?
3) What studies should be ordered first to clarify the etiology of the disease?

Sample answer:

1) Caseous pneumonia of the upper lobe of the right lung in the phase of disintegration and seeding, MBT (+).
2) The diagnosis of caseous pneumonia can be assumed based on the detection of acid-fast mycobacteria in the sputum, severe symptoms of intoxication, a large number of moist rales, a characteristic x-ray picture (multiple destructions and cavities of decay of lung tissue, a volumetric decrease in the lobe of the lung, pronounced bronchogenic dissemination)
3) Sputum testing using PCR for MBT DNA and sputum culture on liquid and solid media, followed by sensitivity testing to anti-tuberculosis drugs.

Task 69.

Patient D., 30 years old, plasterer-painter, at an appointment with a phthisiatrician on a referral from a local therapist.

Complains of hemoptysis, a slight cough with a small amount of mucous sputum, low-grade fever in the evenings, night sweats, weight loss of 7-8 kg over the past year, increased fatigue.

History of the disease: The disease began gradually, about a year ago, when the above complaints appeared. A month ago the cough got worse. For the last 3 days, I have been worried about the presence of blood in my sputum.

Life history: he has been working as a plasterer-painter since the age of 17. Married, has 2 children.Material and living conditions are unsatisfactory. He is undergoing a fluorogram.

Every year, according to words, was the norm. Denies contact with tuberculosis patients. Everyone in the family has been examined and is healthy. Bad habits: smokes since the age of 17, does not abuse alcohol.

Objectively: general condition is satisfactory. The skin is pale. Weight 50 kg with height 173 cm, the left half of the chest lags behind in the act of breathing. In the upper parts of the chest on the left, upon percussion, dullness of the pulmonary sound, with

Auscultation – hard breathing, scanty moist medium-bubble rales. No pathology was detected from other systems and organs.

General blood test: red blood cells 4.2*1012/l, hemoglobin 110 g/l, color code. 0.79, leukocytes 8.5*109/l, eosinophils - 1%, p/i - 4%, p/i - 75%, lymphocytes - 14%, monocytes - 6%, ESR - 52 mm/hour.

Sputum analysis using fluorescent microscopy, carried out in the clinic on the referral of a therapist, once - AFB detected ++

Plain X-ray of the chest organs: on the left in the upper lobe there is a darkening of medium intensity, inhomogeneous, with unclear contours, with an area of clearing in the center, with focal shadows in the lower parts of the lung.

1) Name the main clinical syndromes of the disease.
2) Formulate a preliminary diagnosis.
3) Justify the diagnosis.
4) Make a plan for further examination to clarify the diagnosis.

Sample answer:

1) Syndromes: intoxication, respiratory.
2) Infiltrative tuberculosis of the upper lobe of the left lung in the phase of disintegration and seeding, complicated by hemoptysis, MBT (+)
3) Rationale for the diagnosis: gradual onset of the disease, satisfactory condition of the patient, detection of acid-fast mycobacteria in the sputum, localization of the process in the upper-posterior parts of the lung, which is characteristic of the tuberculosis process, inhomogeneity of darkening on the radiograph with a clearing area (decay cavity), unclear contours, foci of contamination in lower parts of the lung, the presence of hemoptysis.
4) Plan for further examination: CT scan of the chest, sputum testing for MBT DNA, sputum culture for MBT on liquid and solid media, test with recombinant tuberculosis allergen.

Task 70.

A 26-year-old woman was diagnosed with a pregnancy of 8 weeks, a year after clinical cure of pulmonary tuberculosis. He makes no complaints. No objective or laboratory signs of active tuberculosis were detected. She was examined x-ray 6 months ago, there were no signs of relapse of tuberculosis.

1) Should the patient have an x-ray immediately?
2) What kind of research can be ordered?

Sample answer:

1) In the absence of clinical signs of active tuberculosis, X-ray examination should be performed only after delivery.
2) You can prescribe a test with recombinant tuberculosis allergen.

Task 71.

A 39-year-old patient, a loader, was admitted to the department of pulmonary tuberculosis. Complaints of severe weakness, lack of appetite, temperature up to 39°C, emaciation, severe cough with scant amount of sputum, shortness of breath at rest, night sweats. History of illness: acutely ill, temperature rose to 39°C, cough appeared, appetite decreased. 2 days after the onset of the disease, a local therapist was called to the house, who referred the patient for inpatient treatment with a diagnosis of pneumonia. A course of treatment with two broad-spectrum antibiotics for a week had no effect - the patient's condition worsened, body temperature did not drop to normal even after taking antipyretic drugs, and fluctuated during the day from 38.0° to 39.0°C.

The anamnesis revealed household contact with a brother with tuberculosis, who was released from prison 6 months ago. My brother has multidrug-resistant tuberculosis, adherence to treatment is low, he left the hospital without permission and interrupted treatment.

Objectively: the general condition is severe, shortness of breath at rest (39 breaths per minute), cyanosis. The chest is limited in respiratory mobility. Percussion - tympanitis over the lungs, weakened breathing. Moderate enlargement of the liver and spleen. A plain X-ray of the chest organs revealed changes in the lungs.

Acid-fast mycobacteria were not detected in the sputum when examined by light microscopy three times.

The test with recombinant tuberculosis allergen is negative.

Survey X-ray of the chest organs - small monomorphic focal shadows of low intensity with unclear contours are determined throughout all lung fields.

1) How can one explain the negative result of a test with recombinant tuberculosis allergen?
2) Make a preliminary diagnosis for the patient
3) Justify the diagnosis.

4) What additional examination methods are needed to clarify the diagnosis?
5) What should be the treatment tactics in this case?

Sample answer:

1) A negative test result with a recombinant tuberculosis allergen can be explained by a state of immunosuppression, inhibition of the cellular component of immunity due to a long-term tuberculosis process.
2) Miliary pulmonary tuberculosis in the infiltration phase, MBT (-)
3) The clinical picture of intoxication is pronounced, high temperature, shortness of breath at rest, severe cough, lack of effect from the treatment of pneumonia. X-ray picture of miliary tuberculosis, contact with a brother with tuberculosis.
4) Culture of sputum on liquid and solid nutrient media, PCR of sputum for MBT DNA with determination of drug sensitivity of the tuberculosis pathogen, SCT of the chest organs.
5) A chemotherapy regimen should be prescribed for the treatment of multidrug-resistant tuberculosis, since there is a reliable contact with a patient with MDR-tuberculosis. After receiving the results of drug sensitivity of MBT, carry out treatment adjustments.

Task 72.

Patient B., 68 years old, driver, was admitted to the anti-tuberculosis dispensary for differential diagnostic measures and to exclude the diagnosis of active pulmonary tuberculosis.

Complaints of weakness during the day, persistent paroxysmal cough, persistent hemoptysis, weight loss, loss of appetite.

Medical history: have not had a fluorogram in the last 5 years. In the last year I began to lose weight and my appetite worsened. 3 weeks ago hemoptysis appeared, for 3 days, after 3 days it repeated and lasted for a week. I contacted my local therapist at my place of residence. A course of nonspecific therapy was prescribed for 2 weeks. After the end of treatment, the condition did not improve. The examination did not reveal any positive dynamics of the process. Hospitalized in the anti-tuberculosis dispensary. Trial anti-tuberculosis treatment with four anti-tuberculosis drugs was prescribed: rifampicin - 0.6, isoniazid - 0.6, pyrazinamide -1.5, ethambutol -1.2 for a month. During treatment, negative X-ray dynamics were revealed.

Life history: no previous history of tuberculosis. Denies contact with tuberculosis patients. Bad habits: smokes 1 pack a day since the age of 17.

Objectively: body temperature is 36.8°C. The skin is pale, peripheral lymph nodes are not palpable. Auscultation of the lungs on the right in the upper sections reveals weakened breathing and dry wheezing.

General blood test: red blood cells 4.4*1012/l, hemoglobin 108 g/l, color code. 0.79, leukocytes 10.0*109/l, eosinophils - 0%, p/i - 4%, s/i - 62%, lymphocytes - 28%, monocytes - 6%, ESR - 29 mm/hour.

Sputum analysis - simple microscopy revealed single acid-fast mycobacteria (1+).

X-ray of the chest organs: in the area of the upper lobe in the middle parts of the lung there is an inhomogeneous darkening associated with the root.

1) Make a preliminary diagnosis.
2) Justify the diagnosis.
3) What additional examination methods need to be carried out?

Formaking a diagnosis?

4) How can you explain the detection of acid-fast bacteria in the patient's sputum?

Sample answer:

1) Central cancer of the upper lobe bronchus on the right.
2) Long-term smoking, gradual development of the disease, repeated hemoptysis, lack of effect from nonspecific and anti-tuberculosis treatment, anemia. In addition, in favor of malignant neoplasm of the lung
   – elderly age of the patient.
3) Fiberoptic bronchoscopy, SCT of the chest organs; multiple cultures of sputum on liquid and solid nutrient media; PCR for MBT DNA, sputum tests for atypical cells
4) A single bacterial excretion can occur when the tumor process disintegrates and a lymph node containing dormant forms of Mycobacterium tuberculosis enters a patient with latent tuberculosis infection.

Task 73.

Patient B., 30 years old, works as an engineer. Complaints of prolonged cough with mucous sputum, weakness, malaise, increased body temperature to 38.2°C. She has never had tuberculosis before and denies contact with tuberculosis patients. Considers himself

sick for the last two years. She was repeatedly treated at the clinic for ARVI, influenza, and recently chronic bronchitis with frequent exacerbations. The prescribed treatment brought short-term relief.

Objectively: the condition is satisfactory, normosthenic physique, the skin and visible mucous membranes are clean, the peripheral lymph nodes are not enlarged. Pulse 72 per minute, heart sounds are clear and rhythmic. The chest is of regular shape, the mobility of the pulmonary edges is not changed. Percussion above the lungs reveals a pulmonary sound, harsh breathing, isolated dry rales on the left. NPV 18 per minute. The abdomen is soft, painless on palpation. The liver and spleen are not enlarged. There are no dysuric phenomena, the kidneys are not palpable, the symptom of tapping on both sides is negative.

Clinical blood test: erythrocytes – 3.5*1012/l, hemoglobin – 132 g/l, CP – 0.98, leukocytes – 9.0*109/l, e – 7%, p/i – 6%, s /i – 71%, m – 12%, l – 19%, ESR – 17 mm/hour.

In the analysis of bronchial washing water, bacterioscopically - AFB (-) once.

Reaction with recombinant tuberculosis allergen – papule 20 mm.

On a plain X-ray of the chest organs, the left root is somewhat expanded and indistinct. The pulmonary pattern in S1-2 on the left is enhanced. On the right - no pathological changes.

1) What disease should you think about first? Justify your answer.
2) Which specialists should you consult?
3) What studies need to be carried out to clarify the diagnosis?

Sample answer:

1) Considering the gradual development of the disease, the patient's complaints, and the positive test result with the recombinant tuberculosis allergen, pulmonary tuberculosis can be assumed; in addition, oncological pathology must be excluded.
2) Consultation with a phthisiatrician and oncologist.
3) SCT of the chest organs, multiple studies of sputum and bronchial lavage for MBT using all methods (bacterioscopy, PCR, cultures on solid and liquid media).

Task 74.

Patient Z., 20 years old, works as an electrician, lives with his parents

Vcomfortable apartment.

Referred to a phthisiatrician to rule out an active tuberculosis process. Complaints of runny nose, coughing. As a child, he suffered from exudative diathesis; in the spring, he noted an allergy to birch blossoms. At the age of 14, he was examined at an anti-tuberculosis dispensary regarding changes in tuberculin tests, was not registered, and chemoprophylaxis was not carried out. He denies contacts with tuberculosis patients, undergoes preventive fluorographic examinations regularly, the latest fluorogram was presented, performed three months ago, without pathology.

Objectively: the condition is satisfactory, asthenic physique, with reduced body weight, the skin is pale and clean. Pulse 86 per minute, heart sounds are clear and rhythmic. The respiratory rate is 16 per minute, there is a pulmonary sound above the lungs, breathing is harsh, wheezing cannot be heard.

Complete blood count: erythrocytes – 4.0*1012/l, hemoglobin – 125 g/l, CP – 0.93, leukocytes – 8.2*109/l, e – 27%, p/y – 3%, s/y – 40%, m – 6%, l – 24%, ESR – 9
mm/hour. The result of the Mantoux test with 2TE is a papule of 23 mm.

No AFB was found in the bronchial washing water, eosinophils – 8-10-15 in the field of view. A plain X-ray of the chest organs reveals a subclavian infiltrate of average intensity 4.0 cm in diameter in S1-2 of the right lung. The roots are structural and not deformed.

1) What studies should be ordered to exclude active tuberculosis?
2) Interpret the result of the complete blood count.
3) Evaluate the result of the Mantoux reaction with 2 TE.
4) What will be the results of these studies in the absence activepulmonary tuberculosis?
5) What disease can we think about in this case?

Sample answer:

1) SCT of the chest organs to clarify the nature of changes in the lungs, repeat plain radiography after one week, study sputum, bronchial lavage waters repeatedly using all methods for MBT (bacterioscopy, PCR, culture on liquid and solid media), test with recombinant tuberculosis allergen.
2) In a general blood test, pronounced eosinophilia attracts attention.
3) The Mantoux reaction with 2TE is hyperergic.
4) In the absence of an active tuberculosis process, all studies of sputum and bronchial lavage water will be negative, an allergen test

recombinant tuberculosis will also be negative; repeated plain radiography will reveal complete resorption of the infiltrate without residual changes and, possibly, the appearance of infiltrate elsewhere.

5) Given the history, it is highly likely that one can think of a diagnosis of eosinophilic pneumonia.

Task 75.

Patient B., 56 years old, has been working as an electric and gas welder for 15 years. Complaints of dry cough, weakness, shortness of breath, increased body temperature to 38.4°C. Notes a decrease in body weight over the last 3 months by 5-6 kg.

History: no previous history of tuberculosis, denies contact with tuberculosis patients. A fluorogram is performed annually. On the previous fluorogram a year ago, there were fibrous foci in S2 of the left lung, for which he was not examined at the tuberculosis dispensary. He suffers from chronic bronchitis with rare exacerbations, smokes a lot, and does not abuse alcohol. The real deterioration of the condition has been observed during the last three months, when weakness, shortness of breath when walking, and loss of body weight appeared. I did not see a doctor; I attributed the changes in my state of health to overwork. In the last 10 days, the cough has intensified, the body temperature has risen to 38.0-38.5°C.

On examination: satisfactory condition, hypersthenic physique, pale skin, peripheral lymph nodes are not enlarged. Pulse 75 per minute, heart sounds are clear and rhythmic. The chest is of the correct shape, both halves evenly participate in the act of breathing, percussion in the lungs there is a clear pulmonary sound, breathing is hard, there are no wheezes. NPV 18 per minute. No changes were detected in other organs and systems.

1) What disease can be suspected in the patient?
2) Evaluate the result of the previous fluorogram.
3) What tests need to be ordered to confirm tuberculosis?

Sample answer:

1) Considering the patient's complaints and the result
   last yearfluorograms, pulmonary tuberculosis may be suspected.
2) Fibrous lesions in S2 of the left lung are presumably residual changes from a previous active tuberculosis process.

3) SCT of the chest organs to clarify the nature of changes in the lungs, examination of sputum, bronchial lavage waters repeatedly using all methods for MBT (bacterioscopy, PCR, culture on liquid and solid media), test with recombinant tuberculosis allergen.

Task 76.

Patient P., 35 years old, chemical production technologist. Over the past 5 months, he has noted increased fatigue, weakness, low-grade fever in the evening, and dry cough. She did not seek medical help. The day before, hemoptysis appeared, which was the reason for contacting a general practitioner at the clinic. Fluorography took place a year ago. According to the fluorogram, no pathological changes were detected. Denies contact with tuberculosis patients.

Objectively: correct physique, increased nutrition. The skin and visible mucous membranes are of normal color and moisture. Peripheral lymph nodes are not enlarged. The right half of the chest lags behind when breathing. Above the lungs there is a clear pulmonary sound percussion. In the subclavian region on the right, a shortening of the pulmonary sound is noted. Auscultation over this area reveals weakened breathing and a few moist fine rales. No pathology was detected from other organs and systems.

General blood test: erythrocytes – 4.4*1012/l, hemoglobin – 139 g/l, leukocytes – 6.7*109/l, e – 4%, p/i – 7%, s/i – 54%, l – 21%, m – 14%, ESR – 22 mm/hour.

A general urine analysis revealed no pathological changes.

In sputum tests using bacterioscopy, AFB were not detected twice. The result of the Mantoux reaction with 2TE is an 18 mm papule, regional lymphangitis.

A survey X-ray of the chest organs in the upper lobe of the right lung reveals an extensive focus of infiltration with unclear contours of a focal structure with an area of destruction up to 3 cm in diameter. The heart shadow is within normal limits, the contour of the diaphragm is clear.

1) Evaluate the Mantoux test with 2TE.
2) Make a preliminary diagnosis
3) What are the tactics for further X-ray examination?
4) What diagnostic methods allow you to verify the diagnosis of tuberculosis?

Sample answer:

1) Mantoux test with 2TE – hyperergic.
2) Infiltrative tuberculosis of the upper lobe of the right lung in the decay phase, MBT (-).

3) It is necessary to prescribe a CT scan of the chest organs to clarify the nature of changes in the lungs.
4) Cultural examination, PCR, histological examination.

Task 77.

Patient D., 59 years old, works as a TV repairman. Smokes for 30 years. For the last 5 years, he has been registered with an endocrinologist with a diagnosis of type 2 diabetes mellitus; he constantly takes the drug Maninil, 2 tablets per day. Fluorographic examination is carried out annually, the last one was 10 months ago, according to the words - without pathology.

6 months ago I suffered from a cold, which manifested itself in an increase in temperature to 38°C, general weakness, malaise, and the appearance of a dry cough. He was treated at a local clinic by a therapist. No X-ray examination was ordered. After 2 weeks, his health improved, the certificate of incapacity for work was closed and the patient returned to work. Since that time, he began to notice a periodic increase in body temperature in the evening to 37°C, fatigue, sweating at night, increased cough, and the appearance of purulent-mucous sputum. Due to the need for a routine examination by an endocrinologist, he returned to the clinic again.

On examination: general condition is satisfactory, the skin is pale. Pulse 83 per minute. Blood pressure 145/80 mm Hg. Breathing over the entire surface of the lungs is harsh, there is no wheezing. The abdomen is soft, painless on palpation. Urination is painless. There is no peripheral edema.

General blood test: erythrocytes – 3.9*1012/l, hemoglobin – 120 g/l, leukocytes – 9.1*109/l, e – 3%, p.i. – 7%, p.i. – 59%, l – 18%, m – 13%, ESR – 21 mm/hour.

Blood glucose – 8.1 mmol/l.

General urine analysis: color – yellow, relative density – 1025, protein – 0, sugar ++, leukocytes – 6-8 in the field of view, red blood cells – none.

AFB (+) were detected once in sputum by bacterioscopy.

On the plain and right lateral radiograph of the chest organs in S6 of the right lung, a heterogeneous infiltration with a decay cavity is determined. The right root is fibrously deformed. There are no features in the left lung.

1) Formulate a preliminary diagnosis.
2) Allows bacterioscopic examination to verify diagnosistuberculosis? Justify your answer.
3) Determine the tactics for monitoring this patient.

Sample answer:

1) Infiltrative tuberculosis S6 of the right lung in the decay phase, MBT (+). Diabetes mellitus type 2.
2) Bacterioscopic examination does not allow verifying the diagnosis of tuberculosis, because using this method it is impossible to differentiate mycobacterium tuberculosis from non-tuberculous mycobacteria and, therefore, the method does not reliably determine the etiology of the disease.
3) Considering that the patient has diabetes mellitus, constant monitoring of blood glucose and urine sugar levels and consultation with an endocrinologist are necessary throughout the course of treatment.

Task 78.

Patient Z., 48 years old. Transferred to the regional hospital anti-tuberculosisdispensary from the therapeutic department of a city hospital with a diagnosis "Infiltrative tuberculosis of the upper lobe of the right lung, MBT+." In a city hospital, AFB 1+ were detected in sputum using light microscopy.

General blood test: erythrocytes – 3.25*1012/l, hemoglobin – 110 g/l, leukocytes – 5.4*109/l, e – 1%, p.i. – 4%, p.i. – 69%, l – 19%, m – 7%, ESR – 46 mm/hour.

A plain X-ray of the chest organs reveals a non-homogeneous area of infiltration, occupying most of the upper lobe on the right. There are no features in the left lung.

1) What additional tests should be prescribed for the patient?
2) What research is needed to clarify the chemotherapy regimen?

Sample answer:

1) SCT of the chest organs, test with recombinant tuberculosis allergen, sputum examination for MBT using all methods (bacterioscopy, PCR, culture on liquid and solid media).
2) Determination of sensitivity to antituberculosis drugs.

Task 79.

Patient L., 37 years old. He was admitted to the hospital of an anti-tuberculosis dispensary with complaints of febrile body temperature over the past month, a rare cough with scanty mucopurulent sputum, shortness of breath with slight physical exertion, weakness, increased fatigue, sweating, poor appetite and weight loss of 5 kg over the past 6 months.

From the anamnesis: the patient works as a minibus taxi driver, lives in a 2-room apartment with his mother and 14-year-old son. Has no bad habits.

On a plain X-ray of the chest organs, the area of infiltration, which occupies almost the entire upper lobe of the right lung, is intense, inhomogeneous due to areas of clearing; in the lower lobe there are multiple foci ranging in size from 2 to 4 mm, prone to fusion.

In two portions of sputum, AFB 2+ was detected by light microscopy; MBT DNA resistant to rifampicin was detected by PCR. Crops at work.

1) Formulate a clinical diagnosis.
2) Determine the group of the epidemic outbreak of tuberculosis and the plan of sanitary and preventive measures in the outbreak.

Sample answer:

1) Caseous pneumonia of the upper lobe of the right lung, MBT (+), MDR
2) An outbreak of the 1st group of epidemic danger. Plan of sanitary and preventive measures in the outbreak: hospitalization of the patient and treatment in a hospital until the condition is stabilized and bacterial excretion stops, final disinfection at the place of residence within 24 hours after the patient's hospitalization, examination of contact persons.

Task 80.

Patient M., 23 years old, student. He has been registered at the anti-tuberculosis dispensary for 1.5 years with a diagnosis of infiltrative tuberculosis of the upper lobe of the left lung in the phase of resorption and thickening, MBT (-). She was treated in hospital for 8 months. The treatment is effective: partial resorption of infiltrative changes has been achieved,bacterial excretion stopped. 10 months after detection pregnancy occurred. Pregnancy and childbirth proceeded without complications. On the 4th day after birth, deterioration in health appeared: weakness, sweating at night, fever up to 39°C with chills, dry cough, severe shortness of breath. Objectively: the patient's condition is of moderate severity. Cyanosis of lips. Peripheral lymph nodes are not enlarged. Breathing in the lungs is weakened, there is no wheezing. Respiration rate 30 per minute. Heart sounds are rhythmic, pulse 110 per minute, blood pressure 100/60 mm Hg. The abdomen is soft and painless on palpation.

A survey X-ray of the chest organs revealed low-intensity polymorphic focal shadows up to 10 mm in diameter across all pulmonary fields, the pulmonary pattern was depleted. In the upper lobe of the left lung there are polymorphic foci with fairly clear

contours, high density. The root is structural, not enlarged. The mediastinal shadow is normal.

The sinuses are free, the diaphragm is smooth.

Complete blood count: erythrocytes - 3.2*1012/l, hemoglobin - 110 g/l, color count - 1.0, leukocytes

- 10.2*109/l, e - 1%, p/ya - 14%, s/ya - 65%, l - 18%, m - 2%, ESR - 30 mm/hour.

Once in the general network, acid-fast mycobacteria were not detected in sputum by bacterioscopy.

1) Formulate a preliminary diagnosis.
2) List additional examination methods.
3) Decide on the possibility of breastfeeding.
4) Indicate the activities in the outbreak that need to be carried out before the child is discharged.

Sample answer:

1) Acute disseminated (miliary) pulmonary tuberculosis in the infiltration phase, MBT (-).
2) Computed tomography of the chest organs, sputum cultures on liquid and solid media for MBT three times, test with recombinant tuberculosis allergen.
3) Breastfeeding is prohibited and mother and child should be separated.
4) Fluorographic examination of family members, disinfection of the apartment.

Task 81.

A 6-year-old boy has been sick (according to his mother) for about 1 month, when he developed a temperature of 37.0 - 37.2ºC, chest pain, cough, more at night and in the morning, of a bitonic nature. Appetite decreased significantly, weight lost about 2 kg. Two days ago I developed a temperature of 38.6 – 39.1ºC, shortness of breath, and an intensified cough.

Denies contact with a patient with tuberculosis. The general condition is moderate. Upon palpation on the neck, a group of lymph nodes with a diameter of 1.0 - 2.0 cm is determined, painless, dense, mobile, not fused to each other and to the surrounding tissues. Percussion on the right in the paravertebral zone reveals dullness of pulmonary sound. Auscultation - vesicular breathing in the lungs.

Complete blood count: erythrocytes - 3.2*1012/l, hemoglobin - 110 g/l, color count - 1.0, leukocytes

- 12.0*109/l, e - 2%, p/ya - 12%, s/ya - 65%, l - 13%, m - 2%, ESR - 30 mm/hour.

Acid-fast mycobacteria were not detected in the sputum using one-time bacterioscopy.

A plain X-ray of the chest organs shows pulmonary fields without focal and infiltrative changes. On the right, in the hilar zone, a group of enlarged tracheobronchial and paratracheal lymph nodes is identified. The contours of the nodes are unclear with a pronounced perifocal reaction.

1) Outline a plan for additional examination.
2) What diagnostic material can be examined for MBT in the absence of sputum or the impossibility of collecting sputum?
3) Make a preliminary diagnosis.

Sample answer:

1) Computed tomography of the chest organs, test with recombinant tuberculosis allergen, PCR of sputum for MBT DNA, culture of sputum on liquid and solid media for MBT three times.
2) In the absence of sputum or the impossibility of collecting sputum (in young children), other types of diagnostic materials can be examined (bronchial lavages, biopsy material, exudate, gastric lavages, oropharyngeal lavages).
3) Tuberculosis of the intrathoracic lymph nodes on the right in the infiltration phase, MBT (-)

Task 82.

Patient A., 67 years old. For 5 years he has been registered with a therapist for gastric ulcers and chronic pyelonephritis. The last fluorographic examination of the lungs took place 4 years ago. Denies contact with tuberculosis patients. Currently he is complaining of weakness, sweating, fever, shortness of breath, pain on the left side under the shoulder blade and the release of blood-streaked sputum when coughing. Objectively: satisfactory condition, low nutrition. Peripheral lymph nodes are palpated in the axillary region on the right, up to 0.6 cm in diameter, dense, mobile, painless. On percussion, dullness of the pulmonary sound on the right under the scapula. Auscultation reveals vesicular breathing, no wheezing. NPV 22 per minute. Heart sounds are muffled and rhythmic. Pulse 92 per minute, blood pressure 150/90 mm Hg. The abdomen is soft on palpation and painless on palpation. The liver is at the edge of the costal arch. Physiological functions are normal.

General blood test: erythrocytes -3.5*1012/l, hemoglobin -103 g/l, CP - 0.95, leukocytes - 6.0*109/l, e-2%, p/i -7%, s /i -69%, l-14%, m-8%, ESR-42 mm/hour.

Test with recombinant tuberculosis allergen – 6 mm.

Acid-fast mycobacteria – AFB+ – were detected once in sputum using simple bacterioscopy.

An X-ray of the chest organs on the right in S10 reveals an inhomogeneous darkening of the focal structure with clearing up to 2 cm in diameter. There are weakly contoured lesions around. There are single small calcifications in the right root. Lungs with increased pneumatization. The cardiac shadow is within the age norm.

1) Evaluate the sample with recombinant tuberculosis allergen.
2) Formulate a preliminary diagnosis.
3) List several medications that can be used as hemostatic therapy to relieve hemoptysis.
4) Make a plan for additional examination.

Sample answer:

1) The test with recombinant tuberculosis allergen is positive.
2) Infiltrative tuberculosis S10 of the right lung in the phase of decay and seeding, MBT (+), hemoptysis
3) Aminocaproic acid 5% solution - intravenous drip, dicinone 12.5% solution intramuscularly or intravenously, tranexamic acid 5% solution intravenous drip.
4) Consultation with a gastroenterologist, nephrologist, SCT of the chest organs, examination of sputum for MBT using all methods (bacterioscopy, PCR, cultures on liquid and solid media).

Task 83.

Patient K., 36 years old. He has been registered with a phthisiatrician for 8 years with a diagnosis of fibrous-cavernous tuberculosis of the upper lobe of the right lung, MBT+, resistant to streptomycin, isoniazid, rifampicin. Adherence to treatment is low, he left the hospital without permission several times and stopped taking anti-tuberculosis drugs. Over the past two years, he has not taken anti-tuberculosis drugs and did not attend an appointment with the local phthisiatrician.

The patient does not work and abuses alcohol. Lives in a private house, has his own room with a separate exit from the house. The sanitary condition in the house is satisfactory. Married, has two sons (9 years old and 3 years old). My wife works as a teacher in a kindergarten.

Over the past month, the patient’s condition has worsened: weakness and shortness of breath have increased, the temperature began to rise to 38.0°C, a cough with a significant amount of

mucopurulent sputum, loss of appetite. The patient sought medical help due to increased shortness of breath and significant deterioration of his condition. Delivered by the team "Ambulance" to the hospital of the anti-tuberculosis dispensary.

Objectively: the condition is serious. The skin is pale and moist. Shortness of breath at rest. On auscultation, a large number of moist coarse bubbling rales are heard over the entire surface of the lungs. NPV 32 per minute. Heart sounds are rhythmic, muffled, tachycardia, pulse 110 per minute, blood pressure - 90/70 mm Hg, body temperature 39.2°C.

General blood test upon admission: red blood cells 3.2*1012/l, hemoglobin – 98 g/l, color. p.-0.9, leukocytes -12.0*109/l, e - 0, p.-12%, s.-72%, l- 11%, m-5%, ESR-37mm/hour .

Large quantities of AFB were once detected in sputum during light microscopy.

A survey X-ray of the chest organs shows heterogeneous foci of varying sizes with unclear contours, merging into foci, and multiple large decay cavities throughout all pulmonary fields.

1) Formulate a preliminary diagnosis.
2) Name the reasons for the progression of the tuberculosis process.
3) The focus of which epidemic danger group was formed in this case? What activities need to be carried out in the fireplace?

Sample answer:

1) Fibrous-cavernous tuberculosis of the right lung in the phase of infiltration and seeding, complicated by the development of caseous pneumonia of the right lung, MBT (+), MDR
2) In this case, the patient has low adherence to treatment, voluntarily interrupts chemotherapy courses, and abuses alcohol, which is the reason for the progression of the tuberculosis process.
3) Outbreak of group 1 epidemic danger. It is necessary to conduct examination and preventive treatment of contact persons, and conduct final disinfection in the house after hospitalization of the patient.

Task 84.

Girl L., 7 years 3 months, was seen by a pediatrician with complaints of pain and the presence of a tumor-like formation in the left axillary region.

Life history: BCG vaccination in the maternity stage, revaccination at 7 years. Dynamics of tuberculin tests: 1 year – 8 mm, 2 years – 7 mm, 3 years – 5 mm, 4 years – 3 mm, 5-6-7 years – negative.

History of the disease: a tumor-like formation in the left axillary region appeared 3 months after revaccination.

Objectively: the condition is satisfactory, body temperature up to 37.2°C in the evenings. The skin is clean. On the left shoulder there is a scar measuring 6 mm and an infiltrate of 5 mm. In the left axillary fossa a lymph node up to 20 mm in diameter is palpated, the skin over it is unchanged. Other groups of peripheral lymph nodes are not enlarged. Breathing in the lungs is vesicular, there are no wheezes. NPV 22 - per 1 minute. Heart sounds are clear, rhythmic, pulse 76 per minute, blood pressure 100/70 mm Hg.

General blood test: red blood cells - 3.91*1012/l, hemoglobin -120 g/l, color. p.- 0.9, leukocytes - 6.4 x 109/l, e - 2%, p/i - 1%, s/i - 45%, lymph - 45%, m - 7%, ESR - 10 mm/hour.

1) Analyze the dynamics of the Mantoux test with 2 TE.
2) Formulate a diagnosis.
3) What should be the tactics for managing a child?

Sample answer:

1) The loss of sensitivity to tuberculin from 1 year to 4 years is a post-vaccination allergy to tuberculin. At 4, 5, 6,7 years old - negative anergy.
2) Complicated course of BCG vaccination. Axillary left side lymphadenitis.
3) Consultation with a phthisiosurgeon, treatment is carried out anti-tuberculosisdrugs, often isoniazid, orally and local treatment.

Task 85.

Patient K., 31 years old. She was hospitalized due to increasing shortness of breath, pain and a feeling of heaviness in the right half of the chest. Considers himself sick for 2 weeks, his condition worsened after hypothermia, when the complaints mentioned above appeared.Objectively: general condition of moderate severity, symptoms respiratoryinsufficiency. Body temperature 37.6°C.

Plain X-ray of the chest organs: the right pulmonary field is completely darkened. The shadow has an oblique border, merging with the shadow of the heart and diaphragm. The heart shadow and mediastinum are slightly shifted to the left.

When performing a pleural puncture, 1500 ml of straw-yellow liquid was obtained. When analyzing the liquid: AFB (-), specific gravity 1022, protein 38 g/l, Rivalta test (++), lymphocytes - 88%. Lung fields without focal and infiltrative shadows.

General blood test: erythrocytes - 4.5*1012/l, hemoglobin - 120 g/l, CP - 0.8, leukocytes - 11.0*109/l, e - 2%, p/i -10%, s /i -69%, l-18%, m-2%, ESR-40 mm/hour.

1) Make a preliminary diagnosis.
2) What diseases need differential diagnosis first?
3) What examination should be prescribed to clarify the tuberculosis etiology of the disease?

Sample answer:

1) Right-sided exudative pleurisy of unspecified etiology.
2) First of all, differential diagnosis should be made between tuberculous pleurisy, pleurisy of nonspecific etiology, pleural mesothelioma, metastatic pleurisy, cardiogenic effusion.
3) To clarify the tuberculous etiology of exudative pleurisy, cultures on solid and liquid media should be prescribed for MBT of sputum and pleural fluid. If the results of bacteriological examination of pleural fluid and sputum are negative, it is necessary tovideo thoracoscopic biopsy followed by morphological examination.

Task 86.

Patient N., 50 years old. At an appointment with a TB doctor, he complains of a cough with sputum mixed with blood, shortness of breath during physical exertion.

From the anamnesis it is known that 5 years ago the patient was diagnosed with infiltrative tuberculosis of the upper lobe of the right lung in the decay phase, MBT+. He received inpatient and outpatient treatment, left the hospital without permission and interrupted chemotherapy courses, and abused alcohol.

Objectively: the general condition is of moderate severity. The right half of the chest lags behind in the act of breathing. On auscultation, amphoric breathing and isolated moist rales are heard in the upper lobe of the right lung. Percussion - dullness of the pulmonary sound in the upper parts of the right lung, over the lower parts of both lungs there is a box-like tint of the pulmonary sound. RR - 24 per 1 minute, heart rate - 96 per 1 minute, blood pressure 110/70 mm Hg. Art. The liver protrudes from under the costal arch by 3 cm.

General blood test: erythrocytes -4.1*1012/l, hemoglobin -110 g/l, CP - 0.8, leukocytes - 13.0*109/l, e-2%, p/i -7%, s /i -69%, l-14%, m-8%, ESR-40 mm/hour.

A survey X-ray of the chest organs: a decrease in the volume of the upper lobe of the right lung was revealed, in it there was a system of irregularly shaped cavities, the root was pulled up. In the lower lobe of the left lung there are different-sized foci and caseous foci against the background of infiltration with areas of destruction.

Acid-fast mycobacteria were found in large quantities in the sputum using fluorescence microscopy.

1) Formulate a clinical diagnosis.
2) List the complications that may occur in the dowry formtuberculosis.
3) What measures should be taken to stop hemoptysis?
4) List several drugs that can be used as hemostatic therapy.

Sample answer:

1) Fibrous-cavernous tuberculosis of the upper lobe of the right lung in the phase of infiltration and seeding, MBT (+)
2) Pulmonary heart failure, pulmonary hemorrhage, spontaneous pneumothorax, amyloidosis of internal organs, renal failure.
3) To stop hemoptysis in a patient with tuberculosis, the optimal treatment is a combination of hemostatic drug therapy and bronchological examination to determine the source of bleeding, and if possible, followed by stopping.
4) Aminocaproic acid 5% solution - intravenous drip, dicinone 12.5% solution intramuscularly or intravenously, tranexamic acid 5% solution intravenous drip.

Task 87.

Patient R., 21 years old, fell ill 2 months ago: her condition worsened gradually, low-grade fever, weakness, sweating, cough with a small amount of mucous sputum appeared. Objectively: the skin is clean and pale. There is vesicular breathing in the lungs, no wheezing. NPV 18 per minute. Heart sounds are clear, rhythmic, heart rate 74 per minute, blood pressure 110/70 mm Hg.

General blood test: erythrocytes - 4.0*1012/l, hemoglobin -110 g/l, CP - 0.83, leukocytes - 8.0*109/l, e - 2%, p/i -7%, s /i -61%, l-18%, m-12%, ESR-34 mm/hour.

Sputum analysis using light microscopy - AFB (+) detected.

Test with recombinant tuberculosis allergen – papule 18 mm.

Survey X-ray of the chest organs: in the first and second segments of the left lung, focal infiltrative changes were revealed with areas suspicious of decay cavities.

1) Make a preliminary diagnosis.
2) Tactics of further X-ray examination.
3) Evaluate the sample with recombinant tuberculosis allergen.
4) What research methods allow you to verify the diagnosis of tuberculosis?

Sample answer:

1) Infiltrative tuberculosis S2 of the left lung in the decay phase, MBT (+)
2) To clarify the nature of changes in the lungs, it is necessary to prescribe SCT of the chest organs.
3) The test with recombinant tuberculosis allergen is hyperergic.
4) Cultural examination, PCR, histological examination.

Task 88.

A 17-year-old teenager underwent a preventive examination for tuberculosis. Fluorography did not reveal any pathology in the lungs; a test with recombinant tuberculosis allergen showed an infiltrate of 13 mm. Previous immunological tests were negative. Sent for consultation with a phthisiatrician to rule out active tuberculosis. He makes no complaints. Cervical, axillary, inguinal lymph nodes measuring 0.4 - 0.6 cm are palpated; they have a soft elastic consistency, painless, and mobile.

Complete blood count and urinalysis are within normal limits. Chemoprophylaxis for primary infection was not carried out.

After 5 months, the patient's condition worsened. A dry cough appeared, and the temperature periodically began to rise to 38°C.

On examination: the condition is satisfactory, the skin is pale, the cervical, supraclavicular, axillary, and inguinal lymph nodes are palpable, dense elastic consistency, painless, mobile, measuring 0.6 - 0.8 cm. Symptoms of Koranyi, d'Spina, Filatov are positive.

On a plain X-ray of the chest organs: the root of the right lung is expanded, its contours are blurred, the structure is not determined, the lumens of the main and lower lobe bronchi are not differentiated, the hilar pattern of the lung is strengthened and deformed.

In bronchial washing waters, acid-fast mycobacteria were not detected once using fluorescence microscopy.

1) Based on what signs can you suspect tuberculosis?
2) Evaluate the results of immunological tests.
3) What diagnostic material can be examined for MBT in the absence of sputum or the impossibility of collecting sputum?
4) Formulate a clinical diagnosis.

Sample answer:

1) Tuberculosis can be suspected based on the revealed variation of immunological tests, the presence of complaints suspicious for tuberculosis, and an x-ray picture characteristic of tuberculosis of the intrathoracic lymph nodes.
2) The test with recombinant tuberculosis allergen 13 mm is positive. Since previous tests were negative, this is a change in immunological tests.
3) In the absence of sputum or the impossibility of collecting sputum (in young children), other types of diagnostic materials can be examined (bronchial lavages, biopsy material, exudate, gastric lavages, oropharyngeal lavages).
4) Tuberculosis of the intrathoracic lymph nodes on the right, infiltration phase, MBT (-).

Task 89.

What should be the tactics of the local physician in relation to persons whose routine fluorographic examination reveals changes suspicious for tuberculosis?

Sample answer:

Persons whose routine examination reveals changes suspicious for tuberculosis should be sent for an in-depth clinical, radiological and bacteriological examination to an anti-tuberculosis dispensary.

Task 90.

List the criteria that are used to evaluate the effectiveness of treatment for tuberculosis patients.

Sample answer:

This is the disappearance of clinical and laboratory signs of tuberculosis inflammation, persistent cessation of bacterial excretion, confirmed by microscopic and cultural studies, regression of radiological manifestations of tuberculosis

(focal, infiltrative, destructive), restoration of functionality and ability to work.

Task 91.

Name the basic principles of chemotherapy for tuberculosis.

Sample answer:

The basic principles of chemotherapy for tuberculosis are early initiation of treatment, combination of anti-tuberculosis drugs, optimal duration and continuity, complexity, controllability of treatment.

Task 92.

What is the tactics of a phthisiatrician in the event of adverse reactions (removable and irreparable) during the treatment of tuberculosis?

Sample answer:

Reversible reactions can be completely eliminated by reducing the dose, changing the route or frequency of administration of the chemotherapy drug, as well as using various corrective agents. There is no need to stop the course of treatment. Fatal adverse reactions are not amenable to corrective and therapeutic interventions. If they occur, further use of drugs that cause these reactions is practically impossible.

Task 93.

Name the main indications for surgical treatment of pulmonary tuberculosis.

Sample answer:

Indications for surgery for pulmonary tuberculosis are the insufficient effectiveness of chemotherapy, especially in case of multidrug resistance of MVT; irreversible morphological changes with destruction and fibrosis caused by the tuberculosis process in the lungs, bronchi, pleura, lymph nodes; complications and consequences of tuberculosis that threaten life.

Task 94.

Name the features of tactics for managing patients with tuberculosis combined with mental illness.

Sample answer:

Treatment of tuberculosis in mentally ill patients is carried out in a special department of a psychiatric hospital. When choosing anti-tuberculosis drugs, it is necessary to take into account the possible psychotropic effects of some anti-tuberculosis drugs and their interaction with drugs used in psychiatric practice

Task 95.

Under what conditions is the diagnosis of tuberculosis considered verified?

Sample answer:

The diagnosis of tuberculosis is considered verified if the patient, along with clinical, laboratory and radiological signs of tuberculosis, has been identified by any microbiological and molecular genetic method and/or the results of a histological study have been obtained indicating the presence of a tuberculous granuloma in the affected organ.

Task 96.

Define multidrug-resistant tuberculosis.

Sample answer:

Multidrug-resistant tuberculosis is a form of resistant tuberculosis caused by mycobacteria that have become resistant to the two most effective anti-tuberculosis drugs, isoniazid and rifampicin.

Task 97.

What is the purpose of an intradermal test with recombinant tuberculosis allergen?

Sample answer:

An intradermal test with a recombinant tuberculosis allergen is carried out to identify the body's sensitization (infection) to mycobacterium tuberculosis.

Task 98.

Define tuberculosis of the intrathoracic lymph nodes.

Sample answer:

Tuberculosis of the intrathoracic lymph nodes is a form of primary tuberculosis in which damage to the lymph nodes develops in the absence of specific inflammation in the lung tissue.

Task 99.

Define pulmonary hemorrhage.

Sample answer:

Pulmonary hemorrhage is understood as the outpouring of a significant amount of blood into the lumen of the bronchi, followed by its coughing up through the upper respiratory tract.

Task 100.

What study can definitively confirm the diagnosis of spontaneous pneumothorax?

Sample answer:

The diagnosis of spontaneous pneumothorax can be definitively confirmed by radiological research methods (x-ray, tomography) to detect air in the pleural cavity.

CRITERIA for assessing competencies and rating scales

Grade "unsatisfactory"(not accepted) or absence formationcompetencies	**Grade "satisfactorily"(passed) or satisfactory (threshold) level of competence development**	**Rating "good" (passed) or sufficient level mastering competence**	**"Excellent" grade (passed) or highlevel of competence development**
The student's inability to independently demonstrate knowledge when solving tasks, lack of independence in applying skills. The lack of confirmation of the development of competence indicates negative results in mastering the academic discipline.	The student demonstrates independence in applying knowledge, skills and abilities to solve educational tasks in full accordance with the model given by the teacher; for tasks the solution of which was demonstrated by the teacher, it should be considered that the competence is formed at a satisfactory level.	The student demonstrates independent application of knowledge, skills and abilities when solving tasks similar to the samples, which confirms the presence of developed competence at a higher level. The presence of such competence at a sufficient level indicates sustainable	The student demonstrates the ability to be completely independent in choosing a way to solve non-standard tasks within the discipline using the knowledge, skills and abilities acquired both in the course of mastering this discipline and related disciplines, should consider competence

		fixed practical skill	formed at a high level.

Criteria for assessing test control:

percentage of correct answers	Marks
91-100	Great
81-90	Fine
70-80	satisfactorily
Less than 70	unsatisfactory

When grading tasks with multiple correct answers, one error is allowed.

Interview assessment criteria:

Mark	**Descriptors**		
	strength of knowledge	**ability to explain (present) the essence of phenomena, processes, draw conclusions**	**logic and consistency answer**
Great	strength of knowledge, knowledge of the basic processes of the subject area being studied, the answer is distinguished by the depth and completeness of the topic; mastery of terminology; logic and consistency answer	high ability to explain the essence, phenomena, processes, events, draw conclusions and generalizations, give reasoned answers, give examples	high logic and consistency of the answer
Fine	strong knowledge of the basic processes of the subject area being studied, distinguished by the depth and completeness of the topic; mastery of terminology; fluency in monologue speech, but one or two inaccuracies are allowed answer	the ability to explain the essence of phenomena, processes, events, draw conclusions and generalizations, give reasoned answers, give examples; however, one or two inaccuracies in the answer are allowed	logic and consistency of the answer
satisfactory	satisfactory knowledge of the processes of the subject area being studied, an answer characterized by insufficient depth and completeness of the topic; knowledge of basic theoretical issues.	satisfactory ability to give reasoned answers and give examples; well-developed analytical skills phenomena, processes.	satisfactory logic and consistency of the answer

	There may be some errors in the content. answer	There may be some errors in the content. answer	
unsatisfactory	poor knowledge of the subject area being studied, shallow coverage of the topic; poor knowledge of basic theoretical issues, poor skills in analyzing phenomena and processes. There are serious errors in the content answer	inability to give reasoned answers	lack of logic and consistency in the answer

Criteria for assessing situational tasks:

Mark	**Descriptors**			
	understanding the problem	**analysis of the situation**	**situation solving skills**	**professional thinking**
Great	full understanding of the problem. All requirements for the task have been met	high ability to analyze a situation and draw conclusions	high ability to choose a method to solve a problem, confident solution skills situations	high level of professional thinking
Fine	full understanding of the problem. All requirements for the task completed	ability to analyze a situation and draw conclusions	ability to choose a method to solve a problem, confident solving skills situations	sufficient level of professional thinking. One or two inaccuracies in the answer are allowed
satisfactory	partial understanding of the problem. Most of the requirements for task completed	satisfactory ability to analyze a situation and draw conclusions	satisfactory skills in solving a situation, difficulties in choosing a method for solving a problem	sufficient level of professional thinking. More than two inaccuracies in the answer or an error in the sequence are allowed solutions
unsatisfactory	misunderstanding of the problem. Many requirements for the assignment have not been met. No answer. There was no attempt to solve task	low ability to analyze the situation	insufficient situation-solving skills	absent