

# Sample test questions

## **Krok 2** *Medicine*



**1.** A 25-year-old woman has been suffering from diabetes mellitus since she was 9. She was admitted into the nephrology unit with significant edemas of the face, arms, and legs. Blood pressure - 200/110 mm Hg, Hb- 90 g/L, blood creatinine - 850  $\mu\text{mol/L}$ , urine proteins - 1.0 g/L, leukocytes - 10-15 in the vision field. Glomerular filtration rate - 10 mL/min. What tactics should the doctor choose?

- A.** Transfer into the hemodialysis unit
- B.** Active conservative therapy for diabetic nephropathy
- C.** Dietotherapy
- D.** Transfer into the endocrinology clinic
- E.** Renal transplantation

**2.** A 59-year-old woman was brought into the rheumatology unit. Extremely severe case of scleroderma is suspected. Objectively she presents with malnourishment, "mask-like" face, and acro-osteolysis. Blood: erythrocytes -  $2.2 \cdot 10^9/\text{L}$ , erythrocyte sedimentation rate - 40 mm/hour. Urine: elevated levels of free oxyproline. Name one of the most likely pathogenetic links in this case:

- A.** Formation of antibodies to collagen
- B.** Formation of antibodies to native DNA
- C.** Formation of antibodies to blood corpuscles
- D.** Formation of antibodies to transversely striated muscles
- E.** Formation of antibodies to vessel wall

**3.** A 34-year-old man on the 3rd day of ceftriaxone treatment for acute otitis (daily dosage - 2 grams) developed diarrhea occurring 5-6 times per day. Feces are without mucus or blood admixtures. Temperature is  $36.6^\circ\text{C}$ . Gregersen reaction (occult blood in feces) is negative. Stool culture detected no pathogenic germs. What is the most likely cause of diarrhea in this case?

- A.** Antibiotic-associated diarrhea
- B.** Intestinal dysbiosis
- C.** Bacterial overgrowth syndrome
- D.** Ulcerative colitis
- E.** Crohn's disease (regional enteritis)

**4.** A chronic alcoholic was hospitalized into the therapeutic inpatient unit due to pneumonia. On the day 5 of his hospitalization he became disoriented in time and space, developed fear-inducing visual hallucinations and motor agitation. Full body tremor and tremor of the limbs are observed. X-ray and physical examinations detect the signs of his convalescence from pneumonia. What tactics should be chosen regarding this patient?

- A.** Transfer into the inpatient narcology department
- B.** Continue the treatment in the therapeutic department
- C.** Transfer into the neuroresuscitation department
- D.** Compulsory medical treatment for alcoholism
- E.** Discharge from the hospital

**5.** After eating shrimps, a 25-year-old man suddenly developed skin itching, some areas of his skin became hyperemic or erupted into vesicles. Make the diagnosis:

- A.** Acute urticaria
- B.** Hemorrhagic vasculitis (Henoch-Schonlein purpura)
- C.** Urticaria pigmentosa
- D.** Psoriasis
- E.** Scabies

**6.** A 25-year-old woman complains of fatigue, dizziness, hemorrhagic rashes on the skin. She has been presenting with these signs for a month. Blood test: erythrocytes -  $1.0 \cdot 10^{12}/\text{L}$ , Hb- 37 g/L, color index - 1.1, leukocytes -  $1.2 \cdot 10^9/\text{L}$ , platelets -  $42 \cdot 10^9/\text{L}$ . What analysis would be the most advisable for diagnosis-making in this case?

- A.** Sternal puncture (bone marrow biopsy)
- B.** Splenic biopsy
- C.** Liver biopsy
- D.** Coagulation studies
- E.** US of the gastrointestinal tract

**7.** A 35-year-old man complains of rapidly increasing fatigue, palpitations, "visual snow"; and dizziness. He has a history of peptic ulcer of the stomach. Objectively the skin is pale. Vesicular respiration is observed in the lungs. Systolic murmur is detected over the cardiac apex, heart rate is 100/min., BP is 100/70 mm Hg. The epigastrium is slightly tender on palpation. Blood test: erythrocytes -  $3.2 \cdot 10^{12}/\text{L}$ , Hb- 100 g/L, color index - 0.95. What type of anemia is the most likely present in this case?

- A.** Posthemorrhagic anemia
- B.** Sideroblastic anemia
- C.** Chronic iron-deficiency anemia
- D.** Hemolytic anemia
- E.** Hypoplastic anemia

**8.** A 62-year-old patient has been hospitalized with complaints of pain in the thorax on the right during breathing, dyspnea, and dry cough. Ten days ago he slipped and fell hitting his right side. On examination: the patient lies on the left side. The right side of the thorax lags during breathing. On the right there are crepitation and pain in the III-IV ribs. Dullness of percussion sound and sharply diminished breath sounds can be observed. On X-ray:

signs of exudate, fracture of the III-IV ribs. On pleurocentesis: blood is detected. Choose the further tactics:

- A.** Transfer to a thoracic surgery department
- B.** Prescribe conservative therapy
- C.** Perform repeated pleural taps
- D.** Apply a fixation bandage to the rib cage
- E.** Refer to a traumatologist

**9.** A 51-year-old man complains of vomiting with blood. He has been drinking alcohol excessively. Health disorder has been observed since he was 40, when he first developed jaundice. On examination the skin and visible mucosa are icteric, with a stellate vascular pattern. The patient is malnourished and presents with abdominal distension, umbilical hernia, and ascites. The edge of the liver is tapered and painless, +3 cm, the spleen is +2 cm. Blood test: Hb- 80 g/L, leukocytes -  $3 \cdot 10^9/L$ , platelets -  $85 \cdot 10^9/L$ . What is the cause of portal hypertension in this patient?

- A.** Hepatic cirrhosis
- B.** Thrombosis of the splenic vein
- C.** Hemochromatosis
- D.** Constrictive pericarditis
- E.** Budd-Chiari syndrome

**10.** A young man has made an appointment with the dermatologist. He complains of a painful facial rash in the beard and mustache area. This condition has been persisting for several weeks already. After shaving, the patient's condition aggravates. The diagnosis of sycosis is made. What primary morphological elements can be observed in the rash in this case?

- A.** Pustules, papulae
- B.** Nodes, nodules
- C.** Pustules, bumps
- D.** Phlyctenae, maculae
- E.** Maculae, nodes

**11.** At night a 63-year-old woman suddenly developed an asphyxia attack. She has a 15-year-long history of essential hypertension and had a myocardial infarction 2 years ago. Objectively her position in bed is orthopneic, the skin is pale, the patient is covered with cold sweat, acrocyanosis is observed. Pulse - 104/min. Blood pressure - 210/130 mm Hg, respiration rate - 38/min. Pulmonary percussion sound is clear, with slight dullness in the lower segments; throughout the lungs single dry crackles can be heard that become bubbling and non-resonant in the lower segments. What is the most likely complication in this patient?

- A.** Acute left ventricular failure
- B.** Paroxysmal tachycardia
- C.** Bronchial asthma attack
- D.** Pulmonary embolism
- E.** Acute right ventricular failure

**12.** A 26-year-old woman is suspected to suffer from systemic lupus erythematosus due to systemic lesions of skin, vessels, joints, serous tunics, and heart that developed after photosensitization. The following is detected: LE cells, antibodies to native DNA, isolated anti-centromere antibodies, rheumatoid factor is 1:100, Wassermann reaction is positive, circulating immune complex is 120 units. What immunological indicators are considered to be specific to this disease?

- A.** DNA antibodies
- B.** Rheumatoid factor
- C.** Anti-centromere antibodies
- D.** Immunoglobulin A
- E.** Increased circulating immune complex

**13.** A woman came to the doctor with complaints of increased body temperature up to  $37.8^{\circ}C$  and moderately sore throat for the last 3 days. Objectively: mandibular lymph nodes are enlarged up to 3 cm. Palatine tonsils are hypertrophied and covered with gray coating that spreads to the uvula and anterior pillars of the fauces. What is the most likely diagnosis?

- A.** Oropharyngeal diphtheria
- B.** Infectious mononucleosis
- C.** Pseudomembranous (Vincent's) tonsillitis
- D.** Agranulocytosis
- E.** Oropharyngeal candidiasis

**14.** A 42-year-old man, a dispatcher, suffers from peptic ulcer disease of the duodenum. The disease is of moderate severity. He wants to be assigned a disability group. Make the conclusion regarding his working ability:

- A.** Capable of working, employable
- B.** Capable of working, non-employable
- C.** First group of disability
- D.** Second group of disability
- E.** Third group of disability

**15.** A 58-year-old man complains of weakness and tumor-like formations that appeared on the anterior surface of his neck and in the inguinal region. Palpation detects soft painless mobile cervical and inguinal lymph nodes up to 2 cm in diameter. The liver protrudes by 2 cm from the edge of the costal margin, the lower splenic pole is at the umbilical level. In blood: erythrocytes -  $3.5 \cdot 10^{12}/L$ , Hb- 88 g/L, leukocytes -  $86 \cdot 10^9/L$ , band neutrophils - 1%, segmented neutrophils - 10%, lymphocytes - 85%, eosinophils - 2%, basocytes - 0%, monocytes - 2%, erythrocyte sedimentation rate - 15

mm/hour, Gumprecht shadows. What is the most likely diagnosis?

- A. Chronic lymphatic leukemia
- B. Lymphocytic leukemoid reaction
- C. Acute leukemia
- D. Chronic myeloleukemia
- E. Lymphogranulomatosis

16. A 23-year-old man complains of facial edemas, headache, dizziness, low urinary output, and urine discoloration (dark red). These complaints arose after a case of acute tonsillitis. On examination there are facial edemas, the skin is pale, temperature is  $37.4^{\circ}\text{C}$ ; heart rate is 86/min., blood pressure is 170/110 mm Hg. Heart sounds are muffled, the II heart sound is accentuated over the aorta. What etiological factor is the most likely in this case?

- A. Beta-hemolytic streptococcus
- B. Staphylococcus aureus
- C. Streptococcus viridans
- D. Streptococcus pyogenes
- E. Staphylococcus saprophyticus

17. An 18-year-old young man complains of pain in his knee and elbow joints and body temperature up to  $39.5^{\circ}\text{C}$ . One week and a half earlier he developed sore throat. On examination his body temperature is  $38.5^{\circ}\text{C}$ . Swelling of the knee and elbow joints is observed. Pulse is 106/min., rhythmic. Blood pressure is 90/60 mm Hg. Cardiac borders are unchanged, heart sounds are weakened, at the cardiac apex there is a soft systolic murmur. What factor would be the most indicative of the likely disease etiology?

- A. Anti-streptolysin O
- B. C-reactive protein
- C. Creatine kinase
- D. Rheumatoid factor
- E. Seromucoid

18. A woman has been provisionally diagnosed with pheochromocytoma. At the stage of intermission her BP is within norm; there is a tendency towards tachycardia. No urine pathologies. The decision has been made to perform a provocative test with histamine. What drug should be kept close at hand for emergency aid in case of positive test result?

- A. Phentolamine
- B. Pipolphen (Promethazine)
- C. Nifedipine
- D. Mesaton (Phenylephrine)
- E. Prednisolone

19. A 40-year-old man with Bekhterev disease (ankylosing spondylitis) complains of elevated body temperature up to  $37.8^{\circ}\text{C}$ , back pain and stiffness, especially observed during the second half of the night. This condition

has been lasting for 2 years. Objectively: reduced spinal mobility, painful sacroiliac joint, erythrocyte sedimentation rate - 45 mm/hour. X-ray shows narrowing of the intervertebral disc space and of the sacroiliac joint. What eye pathology is often associated with this type of disease progression?

- A. Iridocyclitis
- B. Retinal detachment
- C. Cataract
- D. Optic nerve atrophy
- E. Blepharitis

20. A 63-year-old man complains of unmotivated weakness and pressing and bursting sensation in the left subcostal area. According to him, these signs have been present for a year already. Previously he was healthy. He took part in containment measures during the accident at the Chernobyl Nuclear Power Plant. Objectively: the skin is pale, peripheral lymph nodes are not enlarged, the liver is +3 cm, the spleen is +10 cm. Complete blood count: erythrocytes -  $3.1 \cdot 10^{12}/\text{L}$ , Hb- 100 g/L, leukocytes -  $46 \cdot 10^9/\text{L}$ , blasts - 2%, promyelocytes - 10%, myelocytes - 18%, band neutrophils - 27%, segmented neutrophils - 10%, lymphocytes - 12%, eosinophils - 6%, basocytes - 3%, monocytes - 2%, erythrocyte sedimentation rate - 20 mm/hour. What is the most likely diagnosis?

- A. Chronic myeloleukemia
- B. Hepatic cirrhosis
- C. Acute leukemia
- D. Hemolytic anemia
- E. Chronic lymphatic leukemia

21. For three years a 31-year-old woman has been complaining of pain and swelling of her radiocarpal and metacarpophalangeal articulations and their reduced mobility in the morning, which persisted up to 1.5 hours. Two weeks ago she developed pain, swelling, and reddening of her knee joints, her body temperature increased up to  $37.5^{\circ}\text{C}$ . The treatment was untimely. Examination of the internal organs revealed no pathologic alterations. Diagnosis of rheumatoid arthritis was made. What changes are most likely to be visible on the arthrogram?

- A. Joint space narrowing, usuration
- B. Joint space narrowing, subchondral osteosclerosis
- C. Cysts in the subchondral bone
- D. Numerous marginal osteophytes
- E. Epiphyseal osteolysis

22. A 52-year-old woman has been suffering for 2 years from dull, occasionally exacerbating pain in her right subcostal area, occurring after eating high-fat foods, bitter taste in her mouth in the morning, constipations, and flatulence. Objectively she

has excess weight, her body temperature is  $36.9^{\circ}\text{C}$ ; there is a coating on the root of her tongue; the abdomen is moderately distended and painful in the area of gallbladder projection. What examination would be the most helpful for diagnosis-making?

- A. Ultrasound
- B. Duodenal intubation
- C. Cholecystography
- D. Duodenoscopy
- E. Liver scanning

23. A 57-year-old woman complains of weakness, dyspnea, loss of appetite, and liquid feces. She has been suffering from this condition for 2 years. Objectively she presents with pale skin, subicteric sclerae, and bright-red fissured tongue. Lymph nodes are not enlarged. Pulse - 100/min. BP- 105/70 mm Hg. Liver +3 cm, the spleen cannot be palpated. Blood test: erythrocytes -  $1.2 \cdot 10^{12}/\text{L}$ , Hb- 56 g/L, color index - 1.4, macrocytes, leukocytes -  $2,5 \cdot 10^9/\text{L}$ , eosinophils - 1%, juvenile - 1%, metamyelocytes - 1%, band neutrophils - 8%, segmented neutrophils - 47%, lymphocytes - 38%, monocytes - 4%, reticulocytes - 0.1%, platelets -  $100 \cdot 10^9/\text{L}$ , ESR- 30 mm/hour, indirect bilirubin - 26 mmol/L. What changes can be expected in the bone marrow puncture material?

- A. Prevalence of megaloblasts
- B. Increased number of sideroblasts
- C. Erythroid hyperplasia
- D. Presence of blast cells
- E. Prevalence of lymphoid tissue

24. A 35-year-old man suffers from insulin-dependent diabetes mellitus and chronic cholecystitis. He takes NPH insulin: 20 units in the morning and 12 units in the evening. After a meal he developed pain in the right subcostal area, nausea, vomiting, sleepiness, and increased polyuria. What prehospital measures will be the most effective for prevention of crisis within the next several hours?

- A. Change insulin regimen
- B. Take analgesics
- C. Take cholagogues
- D. Exclude fats from the diet
- E. Decrease carbohydrates in the diet

25. A 45-year-old woman complains of intolerable paroxysmal facial pain on the left with attacks that last for 1-2 minutes. Attacks are provoked by chewing. The disease onset was two months ago after the overexposure to cold. Objectively: pain at the exit points of the trigeminal nerve on the left. Touching near the wing of the nose on the left induces a pain attack with tonic spasm of the facial

muscles. What is the most likely diagnosis?

- A. Trigeminal neuralgia
- B. Glossopharyngeal neuralgia
- C. Temporomandibular joint arthritis
- D. Facial migraine
- E. Maxillary sinusitis

26. A 28-year-old man complains of skin rash and itching on the both of his hands. The condition persists for 1.5 years. The exacerbation of his condition he ascribes to the occupational contact with formaldehyde resins. Objectively the lesion foci are symmetrically localized on both hands. Against the background of erythema with blurred margins there are papulae, vesicles, erosions, crusts, and scales. What is the most likely pathology?

- A. Occupational eczema
- B. Idiopathic eczema
- C. Allergic dermatitis
- D. Simple contact dermatitis
- E. Erythema multiforme

27. A 20-year-old student after failing an exam developed complaints of a sensation of a round foreign body in her throat, difficult swallowing. She fixates on her condition, limits her diet, often cries, seeks attention, exhibits demonstrative attitude. She is highly susceptible to psychotherapeutic suggestion. What psychiatric diagnosis can be made in this case?

- A. Hysterical neurosis
- B. Hypochondriacal neurosis
- C. Depressive neurosis
- D. Obsessive neurosis
- E. Paranoid personality disorder

28. A woman with atopic bronchial asthma was found to have one allergen to dog hair +++. Carpets were removed from the apartment, the apartment was renovated, and air conditioner was installed. However, recurrent asphyxia attacks still occur every night, despite the patient undergoing pathogenetic therapy. What long-term treatment tactics can help this patient to decrease her sensitivity to the allergen?

- A. Specific hyposensitization
- B. Continuation of prior treatment
- C. Antihistamine therapy
- D. Buteyko breathing technique
- E. Referral for speleotherapy

29. A 20-year-old man was hospitalized on the 9th day of the disease. He attributes his disease to eating of insufficiently thermally processed pork. At its onset this condition manifested as periorbital edemas and fever. Objectively his body temperature is  $38.5^{\circ}\text{C}$ . The face is puffy and the eyelids are markedly swollen. Palpation

of gastrocnemius muscles is sharply painful. Blood test shows hypereosinophilia. What is the etiology of this disease?

- A. Trichinella
- B. Trichuris
- C. Ascarididae
- D. Echinococci
- E. Leptospira

**30.** A 40-year-old man claims that his wife is cheating on him and presents a "proof" of her infidelity. He repeatedly initiated scandals with his wife at home and at work, demanding that she confess her infidelity, insulted her, and threatened to kill her. What preventive measures should be taken against socially dangerous actions on his part?

- A. Consultation with the psychiatrist
- B. Outpatient treatment
- C. Consultation with the general practitioner
- D. Consultation with the psychologist
- E. Family counseling

**31.** A 55-year-old woman complains of pain and popping sounds in her left knee joint, which occur when she climbs the stairs. Occasionally during movements her joint becomes "stuck". 5 years ago she suffered a trauma of her left knee. Complete blood count and biochemical blood analysis show normal results. X-ray shows marked osteosclerosis and osteophytes. The joint space is narrowed. Make the provisional diagnosis:

- A. Osteoarthritis
- B. Rheumatoid arthritis
- C. Gouty arthritis
- D. Psoriatic arthritis
- E. Reactive arthritis

**32.** A 40-year-old man, a welder, uses manganese electrodes in his line of work (18 years of experience). He complains of difficulties with writing, bad mood, inertness, gait abnormalities, problems with speech, and hand tremors. Objectively the following is observed in the patient: hypomimia, increased muscle tone of plastic type, and quiet monotonous speech, tremor of the tongue, pill-rolling tremor of the fingers, and retropulsion. What syndrome developed in this patient due to manganese poisoning?

- A. Parkinsonism
- B. Meningism
- C. Hypothalamic syndrome
- D. Polyneuritic syndrome
- E. Vestibular syndrome

**33.** A 45-year-old man developed constricting retrosternal pain that occurs during walks at the distance of 200 m. Objectively: heart rate is 80/min., BP is 160/90 mm Hg. During cardiopulmonary

exercise test at 50 W there is a depression of S-T segment by 3 mm below the isoline in V3-V4. What is the provisional diagnosis?

- A. Exertional angina pectoris, functional class III
- B. Exertional angina pectoris, functional class IV
- C. Exertional angina pectoris, functional class II
- D. Somatoform autonomic dysfunction, hypertension type
- E. Alcoholic myocardiodystrophy

**34.** A 45-year-old man, a farmer, presents with acute onset of a disease. He complains of headache, high temperature, pain in the gastrocnemius muscles, icteric face, and dark urine. Objectively: body temperature - 38°C, blood pressure - 100/70 mm Hg, conjunctival hemorrhages, hepatosplenomegaly, and oliguria. What is the most likely provisional diagnosis?

- A. Leptospirosis
- B. Brucellosis
- C. Viral hepatitis
- D. Pseudotuberculosis
- E. Trichinosis

**35.** A woman has been working as a polisher for a year and a half. Her workstation is equipped with a grinding machine (grinding wheels). She complains of white discoloration of her fingers and toes that appears when she is nervous. Objectively there are no changes in the coloration of the distal segments of her limbs. Grip strength measured with a dynamometer is 25 kg, algesimetry findings are 0.1; 0.3; 0.5. Cold stimulus is extremely positive on the upper and lower limbs. Internal organs are without pathologies. Make the diagnosis:

- A. Vibration disease
- B. Raynaud disease
- C. Syringomyelia
- D. Raynaud syndrome
- E. Polyneuritis

**36.** A 37-year-old man suddenly developed acute headache accompanied by nausea, vomiting, and impaired consciousness. Objectively blood pressure is 190/120 mm Hg, the face is hyperemic. Patient's consciousness is clouded, his answers to the questions are short, monosyllabic. Movement and sensory disturbances are absent. Meningeal signs are positive. Cerebrospinal fluid contains blood. What provisional diagnosis can be made?

- A. Subarachnoid hemorrhage
- B. Meningitis
- C. Ischemic stroke
- D. Encephalitis
- E. Cerebral vascular embolism

37. A woman undergoing in-patient treatment for viral hepatitis type B developed headache, nausea, recurrent vomiting, memory lapses, flapping tremor of her hands, and rapid pulse. Sweet smell from her mouth is detected. Body temperature is  $37.6^{\circ}\text{C}$ , heart rate is 89/min. What complication developed in the patient?

- A. Acute liver failure
- B. Ischemic stroke
- C. Gastrointestinal hemorrhage
- D. Hypoglycemic shock
- E. Meningoencephalitis

38. A 43-year-old man, a coal-face worker with 15-year-long record of work, complains of cough, thoracic pain, and dyspnea. The cough is mild, usually dry, occurs mostly in the morning. The pain is localized in the interscapular region and aggravates during a deep intake of breath. Dyspnea occurs during physical exertion. Vesicular respiration in the lungs is weakened. Heart sounds are rhythmic, heart rate is 86/min., blood pressure is 135/80 mm Hg. The abdomen is soft and painless. X-ray shows micronodular pulmonary fibrosis. Make the provisional diagnosis:

- A. Carboconiosis
- B. Byssinosis
- C. Siderosis
- D. Berylliosis
- E. Metal pneumoconiosis

39. Having examined a 52-year-old patient, the doctor diagnosed him with obesity (body mass index -  $34\text{ kg/m}^2$ , waist circumference - 112 cm) and arterial hypertension (170/105 mm Hg). 2-hour postprandial blood sugar is 10.8 mmol/L. What biochemical blood analysis needs to be conducted to diagnose the patient with metabolic syndrome X?

- A. Lipid profile
- B. Bilirubin
- C. Calcium and phosphorus
- D. Creatinine and urea
- E. Electrolytes

40. After overexposure to cold a 45-year-old woman developed acute pain in her suprapubic and lumbar areas during urination, sharp pains at the end of urination, false urges to urinate. Urine is turbid with blood streaks. The doctor suspects urinary tract infection. What results of laboratory analysis would be the most indicative of such infection?

- A. Leukocyturia, gross hematuria
- B. Gross hematuria
- C. Increased blood creatinine and blood urea
- D. Daily proteinuria under 3.0
- E. Daily proteinuria over 3.0

41. A 62-year-old woman was brought into the admission room with complaints of severe burning retrosternal pain and asphyxia. She has a 10-year-long history of essential hypertension. Objectively her condition is moderately severe. She presents with skin pallor, cyanotic lips, and vesicular respiration over her lungs. The II heart sound is accentuated over the aorta. Blood pressure - 210/120 mm Hg, heart rate (pulse) - 76/min. ECG shows elevation of ST segment in the leads I, AVL, and V5-V6. What is the most likely diagnosis?

- A. Hypertensive crisis complicated with acute myocardial infarction
- B. Uncomplicated hypertensive crisis
- C. Hypertensive crisis complicated with instable angina pectoris
- D. Hypertensive crisis complicated with acute left ventricular failure
- E. Pulmonary embolism

42. A 35-year-old patient developed an epileptic attack with tonic-clonic spasms that lasted for 3 minutes. After the attack the patient fell asleep but in 5 minutes the second attack occurred. The first step of emergency aid would be to:

- A. Ensure patency of airways
- B. Take blood from the vein for analysis
- C. Introduce diazepam intravenously
- D. Prescribe antiepileptic drugs
- E. Administer chloral hydrate via an enema

43. A 27-year-old woman, a teacher in the elementary school, complains of frequent stools, up to 3 times per day, with lumpy feces and large amount of mucus, abdominal pain that gradually abates after a defecation, irritability. Her skin is pale and icteric. Pulse is 74/min., rhythmic, can be characterized as satisfactory. Blood pressure is 115/70 mm Hg. The abdomen is soft, moderately tender along the colon on palpation. Fiberoptic colonoscopy detects no changes. What disease can be suspected?

- A. Irritable bowel syndrome
- B. Chronic non-ulcerative colitis
- C. Chronic enteritis
- D. Crohn disease (regional enteritis)
- E. Whipple disease

44. A 72-year-old man complains of lower extremity edema, sensation of heaviness in the right subcostal area, dyspnea at rest. For over 25 years he has been suffering from COPD. Objectively: orthopnea, jugular venous distention, diffuse cyanosis,

acrocyanosis. Barrel chest is observed, on percussion there is a vesiculotympanic (bandbox) resonance, sharply weakened vesicular respiration on both sides, moist crepitant crackles in the lower segments of the lungs. Heart sounds are weakened, the II heart sound is accentuated over the pulmonary artery. The liver is +3 cm. What complicated the clinical course of COPD in this patient?

- A. Chronic pulmonary heart
- B. Pulmonary embolism
- C. Acute left ventricular failure
- D. Diffuse pneumosclerosis
- E. Community-acquired pneumonia

45. A 72-year-old man with pneumonia complains of marked dyspnea, chest pain, severe cough with expectoration,  $t^{\circ}$  is  $39.5-40^{\circ}C$ , no urination for a whole day. Objectively the patient is conscious. Respiratory rate is 36/min. Over the right lower pulmonary lobe percussion sound is dull; on auscultation there is bronchial respiration and numerous moist crackles. Blood pressure is 80/60 mm Hg. Heart rate is 120/min. Heart sounds are muffled, there is tachycardia. What tactics should the family doctor choose in the management of this patient?

- A. Hospitalization into the intensive care unit
- B. Outpatient treatment
- C. Treatment in the day patient facility
- D. Hospitalization into the pulmonology unit
- E. Hospitalization into the neurology unit

46. 2 hours after eating unknown mushrooms, a 28-year-old man sensed a decrease in his mobility and deterioration of his ability to focus. This condition was then followed by a state of agitation and aggression. On examination he is disoriented and his speech is illegible. 4 hours later he developed fetor hepaticus and lost his consciousness. What syndrome can be observed in this patient?

- A. Acute hepatic failure
- B. Hepatolienal syndrome
- C. Portal hypertension
- D. Cholestatic syndrome
- E. Cytolytic syndrome

47. A 36-year-old man complains of marked dyspnea and cardiac pain. He ascribes his disease to the case of influenza that he had 2 weeks ago. Objectively he leans forward when sitting. The face is swollen, cyanotic, cervical veins are distended. Heart borders are extended on the both sides, heart sounds are muffled, heart rate = Ps = 118/min., BP is 90/60 mm Hg. Blood test: ESR is 46 mm/hour. ECG shows low voltage. X-ray shows trapezoidal cardiac silhouette and signs of pulmonary congestion. Choose the

treatment tactics:

- A. Pericardial puncture (pericardiocentesis)
- B. Diuretics
- C. Antibiotics
- D. Pericardectomy
- E. Glucocorticosteroids

48. A 39-year-old man suffers from chronic rheumatic heart disease. He complains of dyspnea during physical exertion, cough with expectoration, and palpitations. Auscultation detects intensified I heart sound and diastolic murmur; the sound of opening mitral valve can be auscultated at the cardiac apex. The II heart sound is accentuated over the pulmonary artery. The patient is cyanotic. X-ray shows dilated pulmonary root and enlargement of the right ventricle and left atrium. What is the most likely diagnosis?

- A. Mitral stenosis
- B. Aortic stenosis
- C. Pulmonary artery stenosis
- D. Coarctation of the aorta
- E. Patent ductus arteriosus

49. A 23-year-old man complains of severe pain in his left knee joint. Objectively the left knee joint is enlarged, with hyperemic skin, painful on palpation. Complete blood count: erythrocytes -  $3.8 \cdot 10^{12}/L$ , Hb- 122 g/L, leukocytes -  $7.4 \cdot 10^9/L$ , platelets -  $183 \cdot 10^9/L$ . Erythrocyte sedimentation rate - 10 mm/hour. Bleeding time (Duke method) - 4 min., Lee-White coagulation time - 24 min. Partial thromboplastin time (activated) - 89 seconds. Rheumatoid factor - negative. What is the most likely diagnosis?

- A. Hemophilia, hemarthrosis
- B. Werlhof disease (immune thrombocytopenia)
- C. Rheumatoid arthritis
- D. Thrombocytopathy
- E. Hemorrhagic vasculitis (Henoch-Schonlein purpura), articular form

50. A 24-year-old woman, a kindergarten teacher, has been sick for 2 days already. Disease onset was acute. She presents with elevated body temperature up to  $38.0^{\circ}C$ , pain attacks in her lower left abdomen, liquid stool in small amounts with blood and mucus admixtures 10 times a day. Pulse - 98/min., blood pressure - 110/70 mm Hg. Her tongue is moist and coated with white deposits. The abdomen is soft, the sigmoid colon is painful and spastic. Make the provisional diagnosis:

- A. Shigellosis
- B. Escherichiosis
- C. Salmonellosis
- D. Yersiniosis
- E. Rotavirus infection

**51.** A 38-year-old woman complains of weakness, sleepiness, pain in the joints, weight gain despite low appetite, and constipations. She presents with dry and thickened skin, puffy and amimic face, narrowed palpebral fissures, thick tongue, and deep hoarse voice. Her heart sounds are weak, pulse is 56/min. Low levels of free T4 are observed. This patient needs to take the following on a regular basis:

- A. Thyroxine
- B. Mercazolil (Thiamazole)
- C. Lithium carbonate
- D. Furosemide
- E. Calcium gluconate

**52.** A 23-year-old man has accidentally swallowed brake fluid. After that he has been presenting with anuria for 5 days already; his creatinine levels elevated up to 0.569 mmol/L. What treatment tactics should be chosen in this case?

- A. Hemodialysis
- B. Detoxication therapy
- C. Antidotal therapy
- D. Diuretics
- E. Plasmapheresis

**53.** A 52-year-old man for the last 3 years has been suffering from difficult swallowing of solid food, burning retrosternal pain that aggravated during eating, loss of body mass, and occasional vomiting with undigested food. Esophageal X-ray shows S-shaped deformation of the esophagus and its dilation; at the cardiac orifice the esophagus is constricted; esophageal mucosa is smooth, without signs of peristalsis. Make the provisional diagnosis:

- A. Esophageal carcinoma
- B. Diaphragmatic hernia
- C. Esophageal achalasia
- D. Reflux esophagitis
- E. Esophageal diverticulum

**54.** A 53-year-old man complains of general weakness, loss of appetite, and painful vesicles appearing on his skin. The disease onset occurred suddenly, after hyperinsolation one week ago. Examination detects isolated vesicles with wrinkled opercula and occasional painful erosions on the skin of the patient's torso and limbs. Nikolsky sign is positive. What is the most likely diagnosis?

- A. Acantholytic pemphigus
- B. Nonacantholytic pemphigus
- C. Duhring's disease (dermatitis herpetiformis)
- D. Herpes
- E. Toxicodermia

**55.** A patient is being treated in the

tuberculosis clinic. Throughout the last 3 weeks he has been suffering from headaches of increasing intensity. Neurological examination detects nuchal rigidity without focal signs. Make the provisional diagnosis:

- A. Tuberculous meningitis
- B. Chorea minor
- C. Brain tumor
- D. Myelitis
- E. Convexital arachnoiditis

**56.** A patient has gradually lost consciousness. The skin is pale and dry. There is a smell of ammonia from the mouth. Respirations are deep and noisy. Heart sounds are muffled, pericardial friction rub is present. Blood pressure is 180/130 mm Hg. Blood test: Hb- 80 g/L, leukocytes -  $12 \cdot 10^9/L$ , blood glucose - 6.4 mmol/L, urea - 50 mmol/L, creatinine - 1200 mcmmol/L, blood osmolarity - 350 mOsmol/L. No urinary excretion. Make the diagnosis:

- A. Uremic coma
- B. Hyperglycemic coma
- C. Acute renal failure
- D. Acute disturbance of cerebral circulation
- E. Hyperosmolar coma

**57.** A 72-year-old man diagnosed with ischemic heart disease presents with diffuse cardiosclerosis, permanent tachysystolic atrial fibrillation, heart failure IIa, FC III. Objective examination of vital signs: blood pressure is 135/80 mm Hg, heart rate is 160/min., pulse is 125/min. Left ventricular ejection fraction is 32%. What drug is indicated in this case and should be prescribed to the patient?

- A. Digoxin
- B. Procainamide (Novocainamide)
- C. Isadrine (Isoprenaline)
- D. Verapamil
- E. Ivabradine

**58.** A 34-year-old man complains of pale edema of the face, feet, shins, and lumbar area, elevated blood pressure up to 160/100 mm Hg, and general weakness. He has a clinical history of nonspecific ulcerative colitis. Objectively: pulse - 84/min., rhythmic, blood pressure - 165/100 mm Hg; edemas all over the body; the skin is pale and dry, with low turgor. The kidneys cannot be palpated, on an attempt to palpate them they are painless. Blood test: erythrocytes -  $3.0 \cdot 10^{12}/L$ , Hb- 100 g/L, erythrocyte sedimentation rate - 50 mm/hour. Urinalysis: proteins - 3.5 g/L, erythrocytes - 7-10 in the vision field, leukocytes - 5-6 in the vision field. Daily proteinuria - 6 grams. What analysis should be conducted additionally to verify the diagnosis?

- A.** Gingival biopsy for the diagnosis of amyloid disease
- B.** Radioisotopic examination of kidneys
- C.** Urinalysis for Bence-Jones protein
- D.** Renal ultrasound
- E.** Survey and excretory urography

**59.** A 42-year-old man, a worker at the meat processing factory, developed an itching spot on his lower jaw, which gradually transformed into a slightly painful carbuncle 3 cm in diameter, surrounded by a painless swelling that reaches the clavicle. Temperature is subfebrile, under 37.8°C. The doctor suspects anthrax. What drug should this man be prescribed for treatment?

- A.** Penicillin
- B.** Levomycetin (Chloramphenicol)
- C.** Biseptol (Co-trimoxazole)
- D.** Interferon alpha
- E.** Azidothymidin (Zidovudine)

**60.** A 57-year-old patient complains of dyspnea at rest. The patient presents with orthopnea, acrocyanosis, bulging cervical veins. On percussion: dull sound over the lower lung segments. On auscultation: no respiratory sounds. Heart rate is 92/min. Right-sided cardiac dilatation is observed. The liver is +7 cm. Shins are swollen. Pleural effusion is suspected. What indicator would confirm the presence of transudate in this case?

- A.** Total protein content in the pleural fluid below 25 g/L
- B.** Presence of atypical cells
- C.** Total protein content in the pleural fluid exceeding 30 g/L
- D.** Specific gravity exceeding 1015
- E.** Positive Rivalta's test

**61.** A 33-year-old man developed multiple rashes on the skin of his torso and extensor surfaces of his upper and lower limbs. The rashes itch and occasionally fuse together and form plaques. The elements of rash are covered with silver-white fine scales that easily flake off when scratched. Grattage test results in three sequential phenomena: stearin spot, terminal film, and punctate hemorrhage. What diagnosis can be suspected?

- A.** Psoriasis
- B.** Parapsoriasis
- C.** Pyoderma
- D.** Lichen ruber planus
- E.** Secondary papular syphilid

**62.** A 38-year-old woman after physical overexertion suddenly developed palpitations, dyspnea, and a dull pain in the cardiac area. For 10 years she has been registered for regular check-ups due to rheumatism and mitral valve disease with non-disturbed

blood circulation. Objectively her pulse is 96/min., of unequal strength. Blood pressure is 110/70 mm Hg, heart rate is 120/min. ECG registers small unevenly-sized waves in place of P-waves, R-R intervals are of unequal length. What is the most likely diagnosis?

- A.** Atrial fibrillation
- B.** Paroxysmal supraventricular tachycardia
- C.** Atrial flutter
- D.** Paroxysmal ventricular tachycardia
- E.** Respiratory arrhythmia

**63.** An 18-year-old patient always obeys others and adapts his needs to the demands of the people on whom he depends. He excessively defers to their wishes and makes them responsible for his wellbeing, cannot defend his interests and needs support from other people. Such psychic profile has been formed in the childhood, remains unchanged, and hinders adaptation. What psychic disorder is observed in this patient?

- A.** Dependent personality disorder
- B.** Anxiety (avoidant) personality disorder
- C.** Anankastic personality disorder
- D.** Markedly accentuated personality
- E.** Psychopathy-like state

**64.** A 45-year-old man with thrombophlebitis of the deep veins in his legs suddenly after physical exertion developed sharp pain in his thorax on the right, dyspnea, and hemoptysis. Objectively his condition is severe; he presents with acrocyanosis, shortening of pulmonary percussion sound on the right, and weakened respiration. Respiration is 30/min., blood pressure is 110/80 mm Hg. ECG shows sinus tachycardia, heart rate is 120/min., electrical axis of the heart deviates to the right, S<sub>I</sub>-Q<sub>III</sub>. What is the most likely diagnosis?

- A.** Pulmonary embolism
- B.** Community-acquired right-sided pneumonia
- C.** Cancer of the right lung
- D.** Right-sided exudative pleurisy
- E.** Spontaneous pneumothorax

**65.** A 48-year-old woman has been hospitalized due to development of tachysystolic atrial fibrillation. She has lost 5 kg of body weight within 2 months. On palpation there is a node in the left lobe of the thyroid gland. What pathology resulted in the development of this condition?

- A.** Toxic nodular goiter
- B.** Atherosclerotic cardiosclerosis
- C.** Chronic thyroiditis
- D.** Nontoxic nodular goiter
- E.** Autoimmune thyroiditis

**66.** A 48-year-old woman developed insomnia, depressive mood, anxiety, fears

and suicidal thoughts after the death of her husband that occurred one month ago. During her stay in the hospital she speaks in a low voice, is depressed, anxious, avoids sleeping, refuses to eat. What medications should be prescribed in this case?

- A. Antidepressants
- B. Antipsychotics
- C. Group B vitamins
- D. Nootropics
- E. Anticonvulsants

67. A 32-year-old woman complains of episodes of intense fear that occur without visible cause and last for 10-20 minutes; the episodes are characterized by rapid pulse, sweating, labored breathing, and vertigo. Specify the likely diagnosis:

- A. Panic disorder
- B. Paranoid syndrome
- C. Manic syndrome
- D. Simple schizophrenia
- E. Claustrophobia

68. A 39-year-old man suffers from chronic adrenal insufficiency and receives replacement glucocorticoid therapy (hydrocortisone - 15 mg/day). He is to undergo elective surgery for calculous cholecystitis. What medication adjustment should be made on the day of the surgery to prevent the development of acute adrenal insufficiency?

- A. Increase the dosage by 2-3 times
- B. Cancel the drug for the day of the surgery
- C. Add a mineralocorticoid
- D. Add an antibiotic
- E. Prescribe a large volume intravenous fluid infusion

69. After a long drive with the window open a man developed facial asymmetry; he cannot close his right eye, his right nasolabial fold is smoothed out, movements of expression are absent on the right, there is a disturbance of gustatory sensation in the tongue on the right. No other neurological pathologies were detected. What disease can be provisionally diagnosed in this patient?

- A. Neuropathy of the facial nerve
- B. Neuropathy of the trigeminal nerve
- C. Trigeminal ganglionitis
- D. Neuropathy of the oculomotor nerve
- E. Ischemic stroke

70. A 56-year-old woman was diagnosed with stage 2 hypertension of the 2nd degree. She belongs to the group of moderate risk and has bronchial asthma. What group of drugs is **CONTRAINDICATED** to this patient?

- A.  $\beta$ -blockers
- B. Angiotensin-converting enzyme inhibitors
- C. Diuretics
- D. Calcium antagonists
- E. Imidazoline receptor antagonists

71. A 45-year-old woman is registered for regular check-ups due to Werlhof disease (immune thrombocytopenia). Complete blood count: Hb- 100 g/L, erythrocytes -  $2.8 \cdot 10^{12}/L$ , platelets -  $90.0 \cdot 10^9/L$ , leukocytes -  $8.4 \cdot 10^9/L$ , erythrocyte sedimentation rate - 13 mm/hour. Examination detects a single small hematoma on the anterior surface of the thigh, developed after the patient accidentally stumbled on a table. What treatment tactics should be chosen in this case?

- A. Continue the supervision by the hospital hematologist
- B. Urgent hospitalization into the hematology unit
- C. Urgently start a hemostatic therapy, followed by a planned hospitalization into the hematology unit
- D. Urgent hospitalization into the general care unit
- E. Administer thrombocytic mass, continue the treatment in the hematology unit

72. The dermatologist has an appointment with a 30-year-old man that complains of severely itching rashes that especially disturb him at night. The rashes developed 2 weeks ago, after he had returned from a travel. Objectively on the lateral surfaces of his fingers, hands, wrists, elbows, lower abdomen, genitals, and thighs there are paired papulovesicles, single pustules, and scratch marks. What disease can be suspected?

- A. Scabies
- B. Pyoderma
- C. Dermatitis
- D. Eczema
- E. Shingles

73. A 38-year-old woman developed a medical condition 7 days after her return from Bangladesh. Periodical elevation of temperature was accompanied by chills and excessive sweating. She was diagnosed with tropical malaria. Next day her condition further deteriorated: body temperature -  $38^{\circ}C$ , inertness, periodical loss of consciousness, generalized seizures, tachycardia, hypotension, and icteric skin. What complication can be suspected in this case?

- A. Cerebral coma
- B. Serous meningitis
- C. Purulent meningitis
- D. Acute hepatic failure
- E. Acute heart failure

**74.** A 73-year-old woman came to the family physician for one of her regular follow-up examinations. Three months ago she was found to have type 2 diabetes mellitus. She was keeping to her diet and exercise plan and taking phytopreparations. On examination her fasting glucose was within the range of 7.8-8.6 mmol/L, HbA1c - 7.9%. Height - 164 cm, weight - 83 kg. What blood sugar-controlling medicine should she be prescribed first in the course of her pharmacological therapy?

- A. Metformin
- B. Glibenclamide
- C. Glimepiride
- D. Gliclazide
- E. Insulin

**75.** A 27-year-old man complains of pain in his leg joints, purulent discharge from the eyes, and painful burning sensations during urination. Disease onset was acute. He has a history of influenza. The patient smokes and drinks alcohol in excess. In his line of work he is often away on business trips. What is the most likely etiological factor of this disease?

- A. Chlamydia
- B. Adenovirus
- C. Streptococci
- D. Staphylococci
- E. Candida

**76.** A 46-year-old woman has diarrhea with abdominal distension, loss of body mass, and large amounts of porridge-like foul-smelling stool without blood streaks or tenesmus. Objective examination detects moderate tenderness in the mesogastrium and left abdominal flank. Feces analysis detects steatorrhea with neutral fat and

creatorrhea. What prescription would be the most advisable in this case?

- A. Multi-enzyme preparations
- B. Cholinergic antagonists
- C. Metronidazole and loperamide
- D. Antacids and antispasmodics
- E. Cholinergic antagonists and antibacterial agents

**77.** A man was brought into the admission room after an overexposure to cold. He complains of sharp pain in the small of his back and elevated body temperature up to 38°C. He took some aspirin. Blood test: leukocytes -  $10.5 \cdot 10^{12}/L$ , eosinophils - 5%, band neutrophils - 8%, segmented neutrophils - 51%, lymphocytes - 32%, monocytes - 4%, erythrocyte sedimentation rate - 28 mm/hour. Urinalysis: protein - 0.6 g/L, leukocytes - cover the whole vision field, large amount of mucus. What is the most likely diagnosis?

- A. Acute pyelonephritis
- B. Chronic pyelonephritis
- C. Acute glomerulonephritis
- D. Tubulointerstitial nephritis
- E. Subacute malignant glomerulonephritis

**78.** A 26-year-old man complains of chills, rhinitis, dry cough, and fever up to 38°C. Examination shows him to be in a moderately severe condition; there are small pale pink non-merging spots on the skin of his back, abdomen, and extremities. Palpation reveals enlarged occipital and axillary lymph nodes. No information about vaccination history could be obtained. What is the likely etiology of this disease?

- A. Rubella virus
- B. Epstein-Barr virus
- C. Streptococcus
- D. Mumps virus
- E. Neisseria meningitis

1. During medical examination a cadet in the naval college was detected to have a painless dense ulcer 1.5x0.5 in size in his perianal area at the 2 o'clock position. The ulcer floor resembles "old fat". What is the provisional diagnosis?

- A. Hard syphilitic chancre of the rectum
- B. Rectal fissure
- C. Rectal fistula
- D. Anal cancer
- E. Anal crypt suppuration

2. A 32-year-old woman complains of tumor-like formation on the anterior surface of her neck that appeared 2 years ago. Within the last 3 months the tumor has been rapidly growing. It hinders swallowing and impairs speech; the tumor causes a sensation of pressure. Objectively the skin moisture is normal, pulse is 80/min., rhythmic, blood pressure is 130/80 mm Hg. In the right lobe of the thyroid gland there is a dense lumpy node 3.0x3.5 cm that moves during swallowing. Scanning image shows a "cold nodule" in the thyroid gland. Make the provisional diagnosis:

- A. Thyroid cancer
- B. Thyroid adenoma
- C. Thyroid cyst
- D. Nodular goiter
- E. Autoimmune thyroiditis

3. After a surgery for a left thigh phlegmon the disease progression was complicated by sepsis. On the 7th day after the surgery there are marked signs of a generalized inflammatory reaction, in blood there are signs of toxic anemia and progressing hypoproteinemia, bilirubin levels are 40  $\mu\text{mol/L}$ , AST and ALT exceed the norm by 2.5 times. Oliguria persists (700 mL of urine per day). Name the phase of sepsis progression:

- A. Catabolic phase
- B. Stress phase
- C. Anabolic phase
- D. Recovery phase
- E. Mixed phase

4. A 10-year-old boy, who was outdoors in windy and cold weather, developed moderate pain and tingling in his fingers and toes. When he returned home, his parents noticed that the tips of his fingers and toes were white and their sensitivity was lost. As the affected areas were warming up, the fingers and toes developed tingling and painful sensations. Skin pallor changed into redness, tingling stopped, mild itching and swelling of the fingers appeared. Determine the frostbite degree in this child:

- A. Frostbite of the I degree
- B. Perniosis
- C. Frostbite of the II degree
- D. Frostbite of the III degree
- E. Frostbite of the IV degree

5. A 16-year-old patient has made an appointment with an otolaryngologist. He complains of elevated body temperature and sore throat. Disease onset was 2 days ago, after the patient ate two portions of ice-cream. Pharyngoscopy shows hyperemic mucosa of the palatine tonsils, with purulent exudate in the lacunae. Make the provisional diagnosis:

- A. Lacunar tonsillitis
- B. Follicular tonsillitis
- C. Diphtheria
- D. Acute pharyngitis
- E. Pseudomembranous (Vincent's) tonsillitis

6. A 35-year-old woman complains of high body temperature and pain in the upper outer quadrant of her right buttock, which developed after an injection. She has been presenting with this condition for 3 days. At the site of injection the skin is hyperemic; there is a painful infiltrate with an area of softening in its center. The woman is diagnosed with a postinjection abscess of the right buttock. What tactics should the surgeon choose in this case?

- A. Abscess incision, sanation and drainage of the cavity
- B. Hospitalization, prescription of antibiotics, UHF
- C. Abscess puncture, pus removal followed by application of antiseptics
- D. 10-15 minutes of low-intensity laser radiation directed at the right buttock
- E. Antipyretic agents, massage, and application of dry heat to the right buttock

7. A 65-year-old woman on abdominal palpation presents with a tumor in the umbilical region and above it; the tumor is 13x8 cm in size, moderately painful, non-mobile, pulsing. On auscultation systolic murmur can be observed. What is the most likely diagnosis?

- A. Abdominal aortic aneurysm
- B. Gastric tumor
- C. Arteriovenous aneurysm
- D. Tricuspid insufficiency
- E. Bicuspid insufficiency

8. A 32-year-old man complains of pain in his legs that intensifies during walking, intermittent claudication, numbness of his toes, extremity coldness, and inability to walk more than 100 meters. When he sleeps, his leg usually hangs down. The patient has been smoking since he was 16. He drinks alcohol in excess. The left leg is colder than the right

one; the skin of the extremities is dry. No pulse can be detected on the pedal arteries, while pulsation of the femoral arteries is retained. What is the most likely diagnosis?

- A. Obliterating endarteritis
- B. Diabetic angiopathy
- C. Leriche syndrome (aortoiliac occlusive disease)
- D. Raynaud disease
- E. Deep thrombophlebitis

9. A 50-year-old patient was brought to a hospital with complaints of blood in urine. Urination is painless and undisturbed. Macrohematuria had been observed for 3 days. Objectively: kidneys cannot be palpated, suprapubic area is without alterations, external genitalia are non-pathologic. On rectal investigation: prostate is not enlarged, painless, has normal structure. Cystoscopy revealed no changes. What is the most likely diagnosis?

- A. Renal carcinoma
- B. Bladder tuberculosis
- C. Varicocele
- D. Dystopic kidney
- E. Necrotic papillitis

10. A 59-year-old man complains of pain in his left eye and left side of his head, significant vision impairment of the left eye, nausea, and vomiting. Visual acuity of the right eye is 1.0. Visual acuity of the left eye is 0.03, attempts at correction bring no improvement. Right eye intraocular pressure - 21 mm Hg, left eye intraocular pressure - 65 mm Hg. Congestive injection is observed on the sclera of the left eye. The cornea is thick and swollen. The anterior chamber is shallow, moist, and clear. The pupil is dilated and unresponsive to the light, the fundus of the eye is not visible. What is the most likely diagnosis?

- A. Acute attack of glaucoma of the left eye
- B. Acute iridocyclitis of the left eye
- C. Stage II intraocular tumor of the left eye
- D. Endophthalmitis of the left eye
- E. Panophthalmitis of the left eye

11. On the 15th day after a small trauma of the right foot, the patient developed indisposition, fatigability, irritability, headache, elevated body temperature, and sensation of constriction, tension, and twitching in the muscles of the right shin. What disease can be suspected?

- A. Tetanus
- B. Anaerobic gas gangrene
- C. Erysipelas
- D. Acute thrombophlebitis
- E. Thrombophlebitis of the popliteal artery

12. A patient has the second and third degree

burns of the 15% of the body surface. On the 20th day after the trauma the patient presents with sharp increase of body temperature, general weakness, rapid vesicular respiration; facial features are sharpened, BP is 90/50 mm Hg, heart rate is 112/min. What complication is it?

- A. Sepsis
- B. Pneumonia
- C. Acute intoxication
- D. Purulent bronchitis
- E. Anaerobic infection

13. 2 hours after a traffic accident a 28-year-old man in a grave condition was brought to a hospital. The patient complains of abdominal pain. He received a blow to the abdomen with the steering wheel. Objective examination revealed the following: the abdomen does not participate in respiration, is tense and acutely painful on palpation; the abdominal muscles are defensively tense, peritoneal irritation signs are positive, hepatic dullness is absent. BP is 90/60 mm Hg, heart rate is 120/min. What further treatment tactics should be chosen?

- A. Laparotomy
- B. Laparoscopy
- C. Cold to the abdomen
- D. Ultrasound investigation
- E. Laparocentesis

14. A 48-year-old woman has arrived to the surgical unit with wounds in her thigh. On examination the wound surface has dirty-gray coating with unpleasant sweet smell. Wound content resembles raspberry jelly. Skin tissues around the wound are glossy and turgid. Palpation reveals moderate crepitation in the tissues. What microflora is the most likely to cause such inflammation?

- A. Anaerobic clostridial
- B. Anaerobic non-clostridial
- C. Streptococci
- D. Staphylococci
- E. Blue pus bacillus

15. After a pain attack in the right subcostal area, a 58-year-old woman with overnutrition developed icteric skin and sclera, light-colored feces, and dark urine. Her abdomen is distended and painful on palpation in the right subcostal area. Palpation detects liver enlargement by 2-3 cm. Blood test: total bilirubin - 90  $\mu\text{mol/L}$ , conjugated bilirubin - 60  $\mu\text{mol/L}$ . What method of examination will be the most informative for diagnosis clarification?

- A. Retrograde cholangiopancreatography
- B. Intravenous cholegraphy
- C. Infusion cholegraphy
- D. Percutaneous transhepatic cholegraphy
- E. US of the hepatopancreatobiliary zone

16. An 11-year-old boy for a month has been presenting with increasing pain in the right femur. In the painful area there is a non-mobile painful tumor with unclear margins. The child complains of general indisposition, weakness, increased body temperature up to 39°C. X-ray shows widened medullary cavity, small foci of cancellous bone destruction, and onion-like lamellar exfoliation of the cortical layer. What is the most likely pathology resulting in such clinical presentation?

- A. Ewing sarcoma
- B. Osteogenic sarcoma
- C. Fibrosarcoma
- D. Chondrosarcoma
- E. Juxtacortical sarcoma

17. A 43-year-old man complains of a protrusion in the right inguinal region, that enlarges due to strain. He has been presenting with this condition for 6 months. Within this period the protrusion has grown. Objectively in the right inguinal region an elastic protrusion 8x5 cm is visible. On palpation it disappears, leaving an empty space 4x4 cm between the pedicles of the Poupart ligament. "Cough push" sign is positive over this opening. Make the diagnosis:

- A. Right-sided reducible inguinal hernia
- B. Right-sided reducible femoral hernia
- C. Cyst of the right spermatic cord
- D. Right-sided inguinal lymphadenitis
- E. Right-sided reducible arcuate line hernia

18. A 78-year-old man with a prostate adenoma underwent a herniotomy for a direct inguinal hernia. After the surgery he presents with absent urination. Enlarged urinary bladder is detectable above the patient's pubis. What measures should be taken in this case?

- A. Bladder catheterization
- B. Apply cold to the urinary bladder area
- C. Prescribe processing of the postoperative wound with UHF field
- D. Prescribe proserin (neostigmine) intramuscularly
- E. Prescribe antispasmodics subcutaneously

19. A 38-year-old patient has been brought by an ambulance to the surgical department with complaints of general weakness, indisposition, black stool. On examination the patient is pale, there are dotted hemorrhages on the skin of his torso and extremities. On digital investigation there are black feces on the glove. Blood test: Hb- 108

g/L, thrombocytopenia. Anamnesis states that a similar condition was observed 1 year ago. Make the diagnosis:

- A. Thrombocytopenic purpura
- B. Hemophilia
- C. Ulcerative bleeding
- D. Rectal tumor
- E. Nonspecific ulcerative colitis

20. A 30-year-old man came to the family physician. 2 months ago he underwent a surgery for open fracture of the humerus. On examination the patient's condition is satisfactory; in the area of the postoperative wound there is a fistula that discharges a small amount of pus; the area itself is red; fluctuation is detected. X-ray shows destruction of the humerus with sequestra. What complication did the patient develop during the postoperative period?

- A. Posttraumatic osteomyelitis
- B. Hematogenous osteomyelitis
- C. Wound suppuration
- D. Posttraumatic phlegmon
- E. Suture sinus

21. 3 hours after a trauma, a young man developed bradycardia of 46/min., anisocoria D>S, hemi-hyperreflexia S>D, hemihypesthesia on the left, and a convulsive disorder. The character of this process needs to be clarified. What method of examination will be the most accurate for this purpose?

- A. Brain CT
- B. Skull X-ray
- C. Electroencephalography
- D. Echoencephalography
- E. Lumbar puncture

22. The body of a 24-year-old woman with suspected poisoning has been found on the street. Forensic medical examination was requested by an investigator during examination of the site and the body. According to the Criminal Procedure Code currently in force in Ukraine, forensic medical examination is required when it is necessary to determine the:

- A. Cause of death
- B. Manner of death
- C. Time of death
- D. Mode of death
- E. Mechanism of death

23. A 37-year-old patient complains of pain in the spinal column, reduced mobility. The condition persists for 7 years. "Sway back" is observed, there is no movement in all spinal regions. X-ray shows "bamboo spine" vertebral column. What is the most likely diagnosis?

- A.** Ankylosing spondyloarthritis
- B.** Osteochondrosis
- C.** Spondylitis deformans
- D.** Tuberculous spondylitis
- E.** Spondylolisthesis

**24.** A surgery unit received a person with an incised stab wound on the upper third of the right thigh. Examination detects an incised stab wound 3.0x0.5x2.0 cm in size on the inner surface of the upper third of the right thigh. Bright-red blood flows from deep within the wound in a pulsing stream. Characterize this type of bleeding:

- A.** Arterial
- B.** Venous
- C.** Parenchimatous
- D.** Capillary
- E.** Mixed

**25.** A 47-year-old man developed the signs of decompensated laryngeal stenosis against the background of acute flegmonous laryngitis. He presents with inspiratory dyspnea at rest, forced position, cyanotic skin covered in cold sweat, tachycardia, deficient pulse, and low blood pressure. What urgent treatment tactics should be chosen?

- A.** Tracheostomy
- B.** Oral administration of hyposensitization substances and broncholytics
- C.** Intravenous administration of dehydrating agents
- D.** Administration of glucocorticoid hormones
- E.** Oxygen therapy

**26.** Heart X-ray of a 31-year-old man has revealed the following: with tightly filled opacified esophagus there is a marginal filling defect in its middle third on the posterior wall; the defect is 1.8x1.3 cm in size with clear oval border. Mucosal folds are retained and envelop the defect; wall peristalsis and elasticity are not affected. There are no complaints regarding the condition of the patient's alimentary canal. Make the provisional diagnosis:

- A.** Esophageal tumor
- B.** Achalasia cardiae
- C.** Esophageal burns
- D.** Diverticulum
- E.** Barrett esophagus

**27.** A 25-year-old man was hospitalized with complaints of pain in his lower abdomen and right lumbar area that appeared one hour ago. Patient's general state is moderately severe. Body temperature - 38.2°C, heart rate - 102/min. The tongue is dry. The abdomen is painful on deep palpation in the right iliac area and in the Petit triangle. Aure-Rozanov and Gabay signs are positive. Make the provisional diagnosis:

- A.** Acute appendicitis
- B.** Right-sided renal colic
- C.** Cecal tumor
- D.** Intestinal obstruction
- E.** Acute cholecystitis

**28.** A 45-year-old man diagnosed with acute pulmonary abscess suddenly developed sharp pain in his chest on the right and dyspnea up to 30/min. Examination detects facial cyanosis and shallow rapid respirations. Auscultation reveals acutely weakened respiration throughout the whole right lung; percussion reveals a vesiculotympanitic (bandbox) resonance at the lung apex and dullness in the lower lobe. What complication developed in this patient?

- A.** Pyopneumothorax
- B.** Pleuropneumonia
- C.** Pneumothorax
- D.** Acute mediastinitis
- E.** Esophageal perforation

**29.** A 5-year-old child was brought to the ENT department by an ambulance. The child presents with cough and difficult respiration. From the patient's history it is known that the child was playing with a toy construction set, when suddenly started coughing and developed labored breathing. Examination detects periodical cough, labored expiration, and respiratory lag in the left side of the child's thorax. Auscultation: diminished respiration on the left. Percussion: tympanitis. X-ray shows a displacement of the mediastinal organs to the right. Make the diagnosis:

- A.** A foreign body in the left bronchus, valvular bronchostenosis
- B.** A foreign body in the right bronchus, valvular bronchostenosis
- C.** A foreign body in the trachea
- D.** A foreign body in the left bronchus, complete bronchostenosis
- E.** A foreign body in the right bronchus, partial bronchostenosis

**30.** A 30-year-old man was brought to the neurosurgical department with complaints of constant headaches, nausea, vomiting, fever, and weakness of the right-side limbs. Anamnesis states that one month ago the patient had a surgery for left-sided suppurative otitis and mastoiditis. He has been undergoing treatment in an ENT department. Approximately 2 weeks ago the temperature increased, and the patient developed headaches. Objectively: heart rate - 98/min., BP- 140/90 mm Hg, temperature - 38.3°C. Neurologically manifested stiff neck: bilateral Kernig's symptom, unsteadiness during the Romberg's maneuver. Computer tomography of the brain revealed a three-dimensional growth with a capsule in the left hemisphere. Make the diagnosis:

- A. Cerebral abscess
- B. Echinococcus
- C. Hemorrhage
- D. Hydrocephalus
- E. Arnold-Chiari malformation

31. The burns unit received a patient, who 6 hours ago during a fire received flame burns. On the patient's body there is gray-brown area of necrosis that covers 3/4 of the body perimeter. Occasionally there are small blisters with hemorrhagic contents and patches of shredded epidermis. What local therapy is necessary in this case?

- A. Decompression necrectomy
- B. Chemical necrolysis
- C. Blister puncture
- D. Necrectomy with xenotransplantation
- E. Necrectomy with dermal autograft

32. A woman in her early- to mid-thirties has lost her consciousness 3-5 minutes ago. On examination: the skin is pale, no pulse over the carotid arteries, no spontaneous respiration, pupils are dilated; the patient is nonresponsive, presents with atony. The patient's condition can be determined as:

- A. Clinical death
- B. Natural death
- C. Syncope
- D. Brain death
- E. Comatose state

33. A boy had a foreign body removed from under his nail plate. 3 days later he developed a sharp throbbing pain at the end of his distal phalanx, which intensifies when the phalanx is pressed, hyperemia of the nail fold, elevated body temperature up to  $38.5^{\circ}\text{C}$ , and nail plate discoloration. Make the diagnosis:

- A. Subungual panaritium
- B. Erysipelas
- C. Paronychia
- D. Erysipeloid
- E. Abscess

34. A 32-year-old woman complains of body weight loss despite her increased appetite, nervousness, and tremor of the extremities. Objectively: the skin is moist; the thyroid gland is diffusely enlarged, painless, soft, and mobile. Blood test: increased level of T3, T4, and thyroid-stimulating hormone (THS). What is the most likely diagnosis?

- A. Diffuse toxic goiter
- B. Thyroid carcinoma
- C. Autoimmune (Hashimoto's) thyroiditis
- D. Thyroid adenoma
- E. Diffuse nontoxic goiter

35. A 19-year-old young man complains of cough with expectoration of purulent

sputum in the amount of 100 mL per day, hemoptysis, dyspnea, increased body temperature up to  $37.8^{\circ}\text{C}$ , general weakness, weight loss. The patient's condition lasts for 4 years. Exacerbations occur 2-3 times a year. The patient presents with malnutrition, pale skin, cyanosis of the lips, drumstick (clubbed) fingers. Tympanic percussion sound in the lungs, weakened respiration, numerous various moist crackles in the lower pulmonary segments on the left can be observed. In blood: erythrocytes -  $3.2 \cdot 10^{12}/\text{L}$ , leukocytes -  $8.4 \cdot 10^9/\text{L}$ , ESR- 56 mm/hour. On X-ray: lung fields are emphysematous, the left pulmonary root is deformed and dilated. What is the most likely diagnosis?

- A. Multiple bronchiectasis of the left lung
- B. Chronic left-sided pneumonia
- C. Chronic abscess of the left lung
- D. Left-sided pulmonary cystic dysplasia
- E. Suppuration of the cyst in the left lung

36. A 57-year-old woman during a regular ultrasound examination presented with a space-occupying heterogeneous lesion in the right kidney. What is the most informative method of renal tumor diagnostics?

- A. Spiral computed tomography
- B. Excretory urography
- C. Retrograde pyelography
- D. Radioisotope renography
- E. Three glass urine test

37. A 40-year-old victim of a traffic accident sustained the following injuries: closed diaphyseal femur fracture, brain concussion, multiple rib fractures, hemopneumothorax, degloving shin injuries. What injuries require the most urgent attention?

- A. Multiple rib fractures, hemopneumothorax
- B. Closed diaphyseal femur fracture
- C. Brain concussion
- D. Degloving shin injuries
- E. All injuries are equivalent

38. At the railroad crossing a passenger train collided with a bus. In this collision 26 bus passengers died, another 18 passengers received mechanical injuries of varying severity. Where will be professional medical aid provided for the victims of this accident? Who will provide this aid?

- A. In medico-prophylactic institutions; general physicians and surgeons
- B. At the site of the accident; first-response emergency teams
- C. At the site of the accident; specialized second-response emergency teams
- D. In medico-prophylactic institutions; specialized second-response emergency teams
- E. In medical institutions; all listed types of healthcare workers

**39.** A 45-year-old man underwent a cardiac surgery one week ago. His general state has been deteriorating since then: dyspnea at rest, retrosternal pain that irradiates to the neck, marked weakness. Objectively his body temperature is hectic. His cardiac borders are expanded, apical beat is weakened. Auscultation detects pericardial friction rub. What is the most likely diagnosis?

- A.** Acute pericarditis
- B.** Acute cardiac aneurysm
- C.** Myocardial infarction
- D.** Acute myogenic dilatation of the heart
- E.** Pulmonary embolism

**40.** A 45-year-old man was brought by an

ambulance into the emergency hospital. He complains of sudden pain in the lumbar area, frequent painful urination, and vomiting. Examination detects pain in the lumbar area, costovertebral angle tenderness, pain on palpation of kidneys and along the ureter on the right. Urine test: proteins, fresh erythrocytes, leukocytes. Make the provisional diagnosis:

- A.** Urolithiasis, renal colic
- B.** Acute pyelonephritis
- C.** Acute glomerulonephritis
- D.** Acute renal failure
- E.** Polycystic kidney disease

1. A newborn girl has Apgar score of 7-8 points at the 1-5 minutes after birth. During the labor there was a brief difficulty with extraction of the shoulder girdle. After birth the baby presents with disturbed function of the proximal segment and forced position of the right arm. The shoulder is rotated inwards, the elbow is extended, the forearm is pronated, and the whole upper limb resembles an arm of a doll. What is the most likely clinical diagnosis in this case?

- A. Erb-Duchenne palsy
- B. Thoracic spine trauma
- C. Osteomyelitis of the right arm
- D. Intracranial hemorrhage
- E. Soft tissue injury of the right arm

2. Disease onset was acute. A child developed general weakness, pain in the joints, and elevated temperature. Later these signs became accompanied by itching skin rash manifested as erythematous spots 2-5 mm in size. The rash gradually turned hemorrhagic. Large joints are painful and swollen; pain attacks periodically occur in the paraumbilical area; there are signs of intestinal hemorrhage. What is the most likely diagnosis?

- A. Hemorrhagic vasculitis (Henoch-Schonlein purpura)
- B. Scarlet fever
- C. Hemorrhagic meningoenzephalitis
- D. Streptococcal impetigo
- E. Rheumatism

3. A 13-year-old girl for the last two weeks has been complaining of dyspnea and shin and foot edemas that appear after a physical exertion. In the morning the edemas significantly decrease. Clinical examination revealed enlarged liver and coarse systolic murmur over the heart area. Blood test and urinalysis are without changes. What is the most likely cause of edemas in this child?

- A. Heart failure
- B. Nephrotic syndrome
- C. Acute pyelonephritis
- D. Angioneurotic edema
- E. Hepatic cirrhosis

4. A 7-year-old boy has severe pulmonary mucoviscidosis (cystic fibrosis). He complains of dyspnea and blood expectoration. Objectively he presents with lagging physical development, acrocyanosis, hepatomegaly, drumstick fingers, and nail plates resembling a "clock face". Provisional diagnosis of chronic pulmonary heart disease is made. What examination would be the most informative for diagnosis confirmation?

- A. Doppler echocardiography
- B. Electrocardiography
- C. Chest X-ray
- D. Rheography of the pulmonary artery
- E. Ultrasound of the liver

5. Mother of a 5-year-old child noticed on the the head of her child a round "bald" spot 3 cm in diameter. All the hairs in the focus are broken off at the length of 5-6 mm. The day before the child was petting a stray cat. Make the diagnosis:

- A. Microsporia
- B. Superficial trichophytosis
- C. Deep trichophytosis
- D. Psoriasis
- E. Alopecia areata

6. A 2-year-old child with persisting cough and subfebrile body temperature after a case of URTI developed dyspnea, cyanosis of the nasolabial triangle, percussion dullness and weakened respiration in the lower lobe of the right lung, and a slight mediastinal displacement to the left. What pulmonary pathology is likely to cause this clinical presentation?

- A. Pleurisy
- B. Emphysema
- C. Pneumonia
- D. Atelectasis
- E. Bronchitis

7. During examination a 4-month-old child with meningococemia presents with acrocyanosis, cold extremities, tachypnea, and thready pulse, blood pressure of 30/0 mm Hg, anuria, and sopor. What clinical syndrome is it?

- A. Toxic shock syndrome
- B. Neurotoxicosis
- C. Exicosis
- D. Encephalic syndrome
- E. Acute renal failure

8. At night a 2-year-old child with upper respiratory tract infection suddenly developed dyspnea with labored inspiration. Objectively the skin is pale, perioral cyanosis and slight acrocyanosis are observed. Breathing is loud, respiration rate is 32/min. Jugular, supra- and infraclavicular fossae retract during breathing. Respiration is coarse on auscultation. Heart sounds are clear and sonorous, heart rate is 120/min. What condition was complicated by the development of the upper respiratory tract infection?

- A. Stenosing laryngotracheitis
- B. Airway foreign body
- C. Obstructive bronchitis
- D. Bronchiolitis
- E. Bronchial asthma

**9.** A 1-year-old child with a case of URTI suddenly developed noisy respirations with difficult inspiration, intercostal retractions, and barking cough on the 2nd night after the disease onset. What is the most likely diagnosis?

- A.** Stenosing laryngotracheobronchitis
- B.** Acute pulmonary inflammation
- C.** Bronchial asthma
- D.** Acute bronchitis
- E.** Acute bronchiolitis

**10.** A 10-year-old boy with symptoms of arthritis and myocarditis was brought to a hospital. Based on clinical examination the provisional diagnosis of juvenile rheumatoid arthritis was made. What symptom is the most contributive for the diagnostics of this disease?

- A.** Reduced mobility of the joints in the morning
- B.** Regional hyperemia of the joints
- C.** Affection of the large joints
- D.** Enlarged heart
- E.** Increased heart rate

**11.** A 7-year-old girl has been twice treated with antibacterial agents for urinary tract infection. US shows no severe renal defects. The child presents with recurrence of leukocyturia and bacteriuria, elevated body temperature up to  $38.5^{\circ}\text{C}$ , and pain in her left lumbar area. What examination should be conducted first to clarify the cause of urinary infection recurrence?

- A.** Micturating cystourethrography
- B.** Excretory urography
- C.** Retrograde pyelography
- D.** Immunogram
- E.** Radioisotope renography

**12.** A child is 1 year old. After solid food was introduced into the diet, within the last several months the child developed loss of appetite, diarrhea with large amount of feces, and occasional vomiting. Body temperature remains normal. Body weight is 7 kg. The child is very pale, has leg edemas and extremely distended abdomen. Feces analysis detects high levels of fatty acids and soaps. Diagnosis of celiac disease was made and gluten-free diet was prescribed. What should be excluded from the diet in this case?

- A.** Cereals - wheat, oats
- B.** Milk and dairy products
- C.** Fruits
- D.** Animal protein
- E.** Easily digestible carbohydrates

**13.** A 7-year-old boy has been an inpatient for 1.5 months. He had been brought to the hospital with complaints of edemas all over his body, low urine output, and

headache. Clinical urinalysis: proteins - 71 g/L, leukocytes - 1-2 in the vision field, erythrocytes - 3-4 in the vision field. During the course of treatment the edemas gradually dissipated, headache abated, diuresis normalized. Daily urine proteins - 3 g/L. Biochemical blood test: total protein - 43.2 g/L, urea - 5.2 mmol/L, cholesterol - 9.2 mmol/L. What glomerulonephritis syndrome is the most likely to be present in the patient?

- A.** Nephrotic
- B.** Nephritic
- C.** Isolated urinary
- D.** Hematuric
- E.** Mixed

**14.** A 3-month-old child with signs of rickets presents with positive Chvostek, Trousseau, and Maslov signs. One day ago the parents witnessed a cyanotic attack in their child - the child broke into a cold sweat, the eyes bulged, and respiratory arrest occurred. One minute later the child drew in a loud breath and the child's condition normalized again. What is the cause of the described signs of the disease?

- A.** Decrease of blood calcium levels
- B.** Increase of blood calcium levels
- C.** Decrease of blood phosphorus levels
- D.** Increase of blood phosphorus levels
- E.** Metabolic acidosis

**15.** A newborn with gestational age of 31 weeks presents with hypotonia and depressed consciousness. Hematocrit is 35%, general cerebrospinal fluid analysis shows increased content of erythrocytes and protein, and low glucose. These data correspond with the clinical presentation of:

- A.** Intracranial hemorrhage
- B.** Meningitis
- C.** Sepsis
- D.** Anemia
- E.** Intrauterine infection

**16.** A newborn has Apgar score of 9. When should this infant be put to the breast?

- A.** In the delivery room
- B.** After 12 hours
- C.** After 2 hours
- D.** On the 2nd day
- E.** On the 3rd day

**17.** A 3-week-old infant developed large, flaccid vesicles with purulent contents on the skin of chest and abdomen. The vesicles rupture quickly. Make the provisional diagnosis:

- A. Pemphigus neonatorum
- B. Vesiculopustulosis
- C. Toxic erythema
- D. Pemphigus syphiliticus
- E. Pseudofurunculosis

18. 10 hours after birth a child developed jaundice, hypotonia, hyporeflexia, and moderate hepatosplenomegaly. Feces and urine are of normal color. Umbilical cord blood bilirubin is 51  $\mu\text{mol/L}$  due to unconjugated bilirubin levels. In venous blood: erythrocytes -  $3.5 \cdot 10^{12}/\text{L}$ , Hb- 140 g/L, reticulocytes - 1.5%, bilirubin - 111  $\mu\text{mol/L}$ , conjugated - 11  $\mu\text{mol/L}$ , ALT- 40 U/L, AST- 30 U/L. Mother's blood group is A(II) Rh(-), child's blood group is A(II) Rh(+). What laboratory test can confirm the diagnosis?

- A. Coombs test
- B. Viral hepatitis markers analysis
- C. Measurement of erythrocyte osmotic resistance
- D. Erythrocytometry
- E. Measurement of glucose 6-phosphate dehydrogenase levels in erythrocytes

19. A 6-month-old child on breastfeeding is hospitalized in the inpatient department. After the child recovers, the doctor recommends the mother to start introducing solid food to the child's diet. What products should be introduced to the child's diet first?

- A. Vegetable puree
- B. Fermented dairy products
- C. Grated apple
- D. Semolina porridge
- E. Buckwheat porridge

20. The 5-year-old child has been ill for 2 weeks. Cough attacks developed first and were then followed by reprises. During coughing the child's face turns red and cervical veins bulge. The cough attacks induce vomiting. X-ray shows intensified bronchial pattern. Blood test: leukocytes -  $16 \cdot 10^9/\text{L}$ , lymphocytes - 72%, erythrocyte sedimentation rate - 4 mm/hour. What is the most likely diagnosis?

- A. Pertussis
- B. Obstructive bronchitis
- C. Pneumonia
- D. Adenovirus infection
- E. Foreign body

21. A 3-year-old child presents with dyspnea that abates in the sitting position, occasional loss of consciousness and seizures, delayed physical development, cyanosis, drumstick fingers. Echocardiography detects aortic dextraposition, ventricular septal defect, pulmonary artery stenosis, and right ventricular hypertrophy. What is the most likely diagnosis?

- A. Tetrad of Fallot
- B. Coarctation of the aorta
- C. Transposition of the great vessels
- D. Ventricular septal defect
- E. Acquired valvular disease

22. A 15-year-old girl complains of dizziness and sensation of lack of air that she develops in emotionally straining situations. Relief occurs after she takes corvalol. Objectively: hyperhidrosis and marble-like pattern of the skin of her palms and feet. Clinical and instrumental examination revealed no organic changes in the central nervous, cardiovascular, and respiratory systems. What provisional diagnosis can be made?

- A. Somatoform autonomic dysfunction
- B. Obstructive bronchitis
- C. Bronchial asthma
- D. Stenosing laryngotracheitis
- E. Acute epiglottitis

23. A 1.5-month-old child on breastfeeding presents from birth with daily vomiting, irregular liquid foamy feces, and meteorism, which are resistant to antibacterial and probiotic therapy; no increase of body mass is observed. The child's condition improved, when breastmilk was substituted with "NAN low lactose" formula. What pathology is it?

- A. Lactase deficiency
- B. Intestinal lamblia (Giardiasis)
- C. Infectious enteritis
- D. Drug-induced enteritis
- E. Functional dyspepsia

24. A 13-year-old girl for a month has been complaining of fatigability, dull pain in her right subcostal area, abdominal distension, and constipations. Abdominal palpation reveals positive Kehr, Murphy, and Ortner signs, while Desjardins and Mayo-Robson points are painless. Total bilirubin is 14.7  $\mu\text{mol/L}$ , predominantly indirect, ALT- 20 U/L, AST- 40 U/L, amylase - 6.3 mmol/L. Echocholecystography shows practically no contraction of the gallbladder. Make the provisional diagnosis:

- A. Hypokinetic biliary dyskinesia
- B. Hyperkinetic biliary dyskinesia
- C. Chronic pancreatitis
- D. Acute pancreatitis
- E. Chronic hepatitis

25. A 22-day-old infant developed subcutaneous red nodes from 1.0 to 1.5 cm in size on the scalp; later the nodes suppurated. Temperature increased up to  $37.7^{\circ}\text{C}$ , intoxication symptoms appeared, regional lymph nodes enlarged. Complete blood count: anemia, leukocytosis, neutrocytosis, increased ESR. What diagnosis can be made?

- A. Pseudofurunculosis
- B. Pemphigus
- C. Vesiculopustulosis
- D. Scalp phlegmon
- E. -

26. A 10-year-old boy was brought into the hospital with complaints of expiratory dyspnea, respirations are 30/min. He explains his state by a change in the weather conditions. For the last 4 years the boy has been registered for regular check-ups due to his diagnosis of third degree persistent bronchial asthma. To provide emergency aid for this child, first he needs to be given:

- A. Salbutamol or short-acting  $\beta_2$ -agonists
- B. Dexamethasone
- C. Adrenaline
- D. Euphylline (Aminophylline)
- E. Claritin (Loratadine)

27. A 3-year-old child has been brought to a hospital with complaints of pain in the legs, fever, and loss of appetite. Objectively: pale skin and mucosa, hemorrhagic rash. Lymph nodes are enlarged, painless, dense and elastic, not matted together. Bones, joints, and abdomen are painful. The liver and spleen are enlarged. Hemogram: Hb- 88 g/L, color index - 1.3, platelets -  $80 \cdot 10^9/L$ , leukocytes -  $25.8 \cdot 10^9/L$ , lymphoblasts - 70%, ESR- 52 mm/hour. Make the provisional diagnosis:

- A. Acute leukemia
- B. Thrombocytopenic purpura
- C. Acute rheumatic fever
- D. Infectious mononucleosis
- E. Hemorrhagic vasculitis (Henoch-Schonlein purpura)

28. During an outdoors school event in hot weather, a 10-year-old girl lost her consciousness. Body temperature -  $36.7^\circ C$ .

Objectively her skin is pale and cold to touch, her pupils are dilated. Blood pressure - 90/50 mm Hg. Heart rate - 58/min. What pathology occurred in this case?

- A. Syncope
- B. Sympathicotonic collapse
- C. Paralytic collapse
- D. Sunstroke
- E. -

29. A 13-year-old girl has 30% of excessive body mass, she started to gain weight at the age of 3. She has a family history of obesity. Her height and sexual development are normal for her age. The appetite is excessive. She complains of periodical headaches. Blood pressure - 120/80 mm Hg. Subcutaneous fat is evenly distributed, she has no stretch marks. There is juvenile acne on her face. What type of obesity is it?

- A. Alimentary constitutive obesity
- B. Hypothalamic obesity
- C. Adrenal obesity
- D. Hypothalamic syndrome of puberty
- E. Hypothyroid obesity

30. An 8-year-old girl complains of frequent painful urination in small amounts and urinary incontinence. The signs have been present for 2 days already. She explains her disease by overexposure to cold. Costovertebral angle tenderness is absent. Complete blood count is without pathologies. Urine test: leukocytes - 20-30 in the vision field, erythrocytes - 40-50 in the vision field, unchanged, bacteriuria. What is the most likely diagnosis?

- A. Cystitis
- B. Vulvitis
- C. Pyelonephritis
- D. Glomerulonephritis
- E. Urolithiasis

1. A pregnant woman is 28 years old. Anamnesis: accelerated labor complicated by the II degree cervical rupture. The following two pregnancies resulted in spontaneous abortions at the terms of 12 and 14 weeks. On mirror examination: the uterine cervix is scarred from previous ruptures at 9 and 3 hours, the cervical canal is gaping. On vaginal examination: the cervix is 2 cm long, the external orifice is open 1 cm wide, the internal orifice is half-open; the uterus is enlarged to the 12th week of pregnancy, soft, mobile, painless, the appendages are without changes. What diagnosis can be made?

- A. Isthmico-cervical insufficiency, habitual noncarrying of pregnancy
- B. Threatened spontaneous abortion
- C. Incipient abortion, habitual noncarrying of pregnancy
- D. Cervical hysteromyoma, habitual noncarrying of pregnancy
- E. Cervical pregnancy, 12 weeks

2. On the day 4 after the cesarean section a woman developed fever with body temperature up to 39°C and abdominal pain. Pulse - 104/min. She vomited twice. The patient is sluggish, her tongue is dry and has gray coating. The abdomen is distended. Signs of peritoneal irritation are positive in all segments. Peristalsis cannot be auscultated. No passage of gas occurs. Uterine fundus is located at the level of the navel. The uterus is painful on palpation. The discharge is moderate and contains blood and pus. What is the most likely diagnosis?

- A. Diffuse peritonitis
- B. Metroendometritis
- C. Progressive thrombophlebitis
- D. Pelvic peritonitis
- E. Parametritis

3. A 58-year-old woman came to the gynecological clinic. She complains of bloody discharge from her genital tracts. Menopause is 8 years. Gynecological examination: the uterus is slightly enlarged, dense to touch, with limited mobility; the uterine appendages cannot be detected; parametrium is free. Fractional curettage of the uterine cavity yields a significant amount of medullary substance in the scrape. What is the most likely diagnosis?

- A. Uterine corpus cancer
- B. Adenomyosis
- C. Chorioepithelioma
- D. Uterine cervix cancer
- E. Hormone-producing ovarian tumor

4. A 48-year-old woman complains of disturbed menstrual cycle: her periods last for 7-9 days and are excessively profuse throughout the last half-year. She notes occasional hot flashes in her head, insomnia,

irritability, and headaches. Her skin is of normal color. Blood pressure - 150/90 mm Hg, pulse - 90/min., rhythmic. The abdomen is soft and painless. Bimanual examination shows no uterine enlargement, the appendages cannot be detected. The vaginal fornices are free. What is the most likely diagnosis?

- A. Climacteric syndrome
- B. Premenstrual syndrome
- C. Adrenogenital syndrome
- D. Stein-Leventhal syndrome (polycystic ovary syndrome)
- E. Uterine myoma

5. A 30-year-old multigravida has been in labour for 18 hours. 2 hours ago the pushing stage began. Fetal heart rate is clear, rhythmic, 136/min. Vaginal examination reveals complete cervical dilatation, the fetal head in the pelvic outlet plane. Sagittal suture is in line with obstetric conjugate, the occipital fontanel is near the pubis. The patient has been diagnosed with primary uterine inertia. What is the further tactics of labor management?

- A. Outlet forceps
- B. Labour stimulation
- C. Cesarean section
- D. Skin-head Ivanov's forceps
- E. Vacuum extraction of the fetus

6. A woman is 40 weeks pregnant. The fetus is in the longitudinal lie and cephalic presentation. Pelvic size: 26-29-31-20. Expected weight of the fetus is 4800 gram. The labor contractions has been lasting for 12 hours, within the last 2 hours they were extremely painful, the parturient woman is anxious. The waters broke 4 hours ago. On external examination the contraction ring is located 2 finger widths above the navel, Henkel-Vasten sign is positive. Fetal heart rate is 160/min., muffled. On internal examination the uterine cervix is fully open, the head is engaged and pressed to the entrance into the lesser pelvis. What is the most likely diagnosis?

- A. Threatened uterine rupture
- B. Complete uterine rupture
- C. Hyperactive uterine contractions
- D. Abruptio of the normally positioned placenta
- E. Anatomically contracted pelvis

7. A 23-year-old woman came to the gynecological clinic. She complains of pain, itching, and burning in her vulva, general weakness, indisposition, elevated body temperature up to 37.2°C, and headache. On examination in the vulva there are multiple vesicles up to 2-3 mm in diameter with clear contents against the background of hyperemia and mucosal edema. Make the

provisional diagnosis:

- A.** Genital herpes infection
- B.** Primary syphilis
- C.** Papillomavirus infection
- D.** Vulvar cancer
- E.** Cytomegalovirus infection

**8.** A woman with the pregnancy term of 8 weeks complains of elevated temperature up to  $37.6^{\circ}\text{C}$ , skin rash that can be characterized as macular exanthema, enlargement of posterior cervical and occipital lymph nodes, small amount of bloody discharge from the genital tracts. She was examined by the infectious diseases specialist and diagnosed with rubella. What tactics should the obstetrician-gynecologist choose?

- A.** Abortion
- B.** Prescription of antibacterial therapy
- C.** Prescription of antiviral therapy
- D.** Treatment of incipient abortion
- E.** Prescription of hemostatic therapy

**9.** A 16-year-old girl has primary amenorrhea, no pubic hair growth, normally developed mammary glands; her genotype is 46 XY; uterus and vagina are absent. What is your diagnosis?

- A.** Testicular feminization syndrome
- B.** Mayer-Rokitansky-Kuster-Hauser syndrome
- C.** Cushing syndrome
- D.** Sheehan syndrome
- E.** Cushing disease

**10.** A 46-year-old woman came to the maternity clinic with complaints of moderate blood discharge from the vagina, which developed after the menstruation delay of 1.5 months. On vaginal examination: the cervix is clean; the uterus is not enlarged, mobile, painless; appendages without changes. Make the diagnosis:

- A.** Dysfunctional uterine bleeding
- B.** Adenomyosis
- C.** Ectopic pregnancy
- D.** Submucous uterine myoma
- E.** Cancer of the uterine body

**11.** A 25-year-old woman was brought into the gynecological department with profuse bloody discharge from her genital tracts. She is 12 weeks pregnant, the pregnancy is planned. Within the last 3 days she was experiencing pains in her lower abdomen that eventually started resembling cramps, she developed bleeding. Her skin is pale, pulse - 88/min., blood pressure - 100/60 mm Hg, body temperature -  $36.8^{\circ}\text{C}$ . Vaginal examination: the uterus size corresponds with 11 weeks of pregnancy, the cervical canal allows inserting 1 finger and contains fragments of the fertilized ovum, the

discharge is bloody and profuse. What is the most likely diagnosis?

- A.** 12-week pregnancy, spontaneous abortion in progress
- B.** 12-week pregnancy, threatened spontaneous abortion
- C.** Disturbed menstrual cycle, hyperpolymenorrhea
- D.** Disturbed menstrual cycle, amenorrhea
- E.** Full-term pregnancy, term labor

**12.** A 30-year-old woman came to the gynecological department. She complains of sharp pain in her lower abdomen and temperature of  $38.8^{\circ}\text{C}$ . She has a history of extramarital sexual activity and 2 artificial abortions. On gynecological examination the uterus is unchanged. The appendages are bilaterally enlarged and painful. Profuse purulent discharge is being produced from the vagina. What examination needs to be conducted to clarify the diagnosis?

- A.** Bacteriological and bacterioscopic analysis
- B.** Hysteroscopy
- C.** Curettage of the uterine cavity
- D.** Colposcopy
- E.** Laparoscopy

**13.** It is the 3rd day after the first normal term labor; the infant is rooming-in with the mother and is on breastfeeding. Objectively: the mother's general condition is satisfactory. Temperature is  $36.4^{\circ}\text{C}$ , heart rate is 80/min., BP is 120/80 mm Hg. Mammary glands are soft and painless; lactation is moderate, unrestricted milk flow. The uterus is dense, the uterine fundus is located 3 finger widths below the navel. Lochia are sanguino-serous, moderate in volume. Assess the dynamics of uterine involution:

- A.** Physiological involution
- B.** Subinvolution
- C.** Lochiometra
- D.** Pathologic involution
- E.** Hematometra

**14.** A 28-year-old woman complaining of irregular menstruations and infertility came to the gynecological clinic. Menstruations occur since the age of 15, irregular, with delays up to 2 months. On examination she presents with marked hirsutism and excessive body weight. On vaginal examination the uterus is reduced in size and painless. The ovaries on the both sides are dense and enlarged. Ultrasound shows microcystic changes in the ovaries, the ovaries are 5x4 cm and 4.5x4 cm in size with dense ovarian capsule. Basal body temperature is monophasic. What is the most likely diagnosis?

- A. Polycystic ovary syndrome
- B. Krukenberg tumor
- C. Endometrioid cysts
- D. Bilateral adnexitis
- E. Ovarian carcinoma

15. An 18-year-old girl was brought into the gynecology department with complaints of elevated body temperature up to  $37.8^{\circ}\text{C}$ , sharp pain in her lower abdomen, more intense on the right, and difficult defecation. Vaginal examination detected a painful dense elastic formation 5x6 cm in the area of her right ovary. Pregnancy test is negative. What is the most likely diagnosis?

- A. Torsion of ovarian tumor pedicle
- B. Ectopic pregnancy
- C. Appendicitis
- D. Ovarian cyst rupture
- E. Ovarian apoplexy

16. A 26-year-old woman presents with amenorrhea. 10 months ago she gave birth for a second time. In her early postpartum period she developed a massive hypotonic hemorrhage. No breastfeeding. Lately she has been presenting with loss of weight, loss of hair, and indisposition. Gynecological examination revealed atrophy of the external genitals, the uterus is abnormally small, no uterine appendages can be detected. What is the most likely diagnosis?

- A. Sheehan syndrome (postpartum pituitary gland necrosis)
- B. Physiological amenorrhea
- C. Suspected progressing ectopic pregnancy
- D. Stein-Leventhal syndrome (polycystic ovary syndrome)
- E. Galactorrhea-amenorrhea syndrome

17. A 45-year-old woman came to the maternity clinic with complaints of periodical pains in her mammary glands that start 1 day before menstruation and stop after the menstruation begins. Palpation of the mammary glands detects diffuse nodes predominantly in the upper outer quadrants. What is the most likely diagnosis?

- A. Fibrocystic mastopathy
- B. Breast cancer
- C. Mastitis
- D. Hyperprolactinemia
- E. Breast cyst

18. A 14-year-old girl came to the general practitioner with complaints of weakness, loss of appetite, headache, rapid fatigability. Her last menstruation was profuse and lasted for 14 days after the previous delay of 2 months. Objectively: the skin is pale, heart rate is 90/min., BP is 110/70 mm Hg, Hb is 88 g/L. Rectal examination: the uterus and its appendages are without changes, no discharge from the genital tracts. What

complication occurred in the patient?

- A. Posthemorrhagic anemia
- B. Somatoform autonomic dysfunction of hypotonic type
- C. Migraine
- D. Gastritis
- E. Dysmenorrhea

19. A 22-year-old postparturient woman on the 12th day after the normal childbirth informs of elevated body temperature up to  $39^{\circ}\text{C}$  for the last 3 days and pain in her right mammary gland. The right mammary gland is enlarged, hot to touch, tense, hyperemic, and painful. Palpation reveals there a dense infiltration 8x8 cm with a fluctuation in its center. What is the most likely diagnosis?

- A. Postpartum period, day 12. Right-sided infiltrative-purulent mastitis
- B. Postpartum period, day 12. Right-sided serous mastitis
- C. Postpartum period, day 12. Right-sided gangrenous mastitis
- D. Postpartum period, day 12. Right-sided phlegmonous mastitis
- E. Postpartum period, day 12. Right-sided lactostasis

20. A 35-year-old pregnant woman with degree 1 essential hypertension, developed edemas and headache at the 33 week of her pregnancy. Objectively her general condition is satisfactory, blood pressure - 160/100 mm Hg, normal uterine tone. Fetal heart rate is 140/min., rhythmic. She was diagnosed with daily proteinuria - 4 g/L, daily diuresis - 1100 mL. Creatinine - 80  $\mu\text{mol/L}$ , urea - 7 mmol/L, platelets -  $100 \cdot 10^9/\text{L}$ . What complication of pregnancy occurred?

- A. Moderate preeclampsia
- B. Severe preeclampsia
- C. Mild preeclampsia
- D. Hypertensive crisis
- E. Renal failure

21. A 24-year-old pregnant woman on her 37th week of pregnancy has been brought to the maternity obstetric service with complaints of weak fetal movements. Fetal heartbeats are 95/min. On vaginal examination the uterine cervix is tilted backwards, 2 cm long, external orifice allows inserting a fingertip. Biophysical profile of the fetus equals 4 points. What tactics of pregnancy management should be chosen?

- A.** Urgent delivery via a cesarean section
- B.** Treatment of placental dysfunction and repeated analysis of the fetal biophysical profile on the next day
- C.** Doppler measurement of blood velocity in the umbilical artery
- D.** Urgent preparation of the uterine cervix for delivery
- E.** Treatment of fetal distress; if ineffective, then elective cesarean section on the next day

**22.** During regular preventive gynecological examination a 30-year-old woman was detected to have dark blue punctulated "perforations" on the vaginal portion of the uterine cervix. The doctor suspects endometriosis of the vaginal portion of the uterine cervix. What investigation method would be most informative for diagnosis confirmation?

- A.** Colposcopy, target biopsy of the cervix
- B.** US of the lesser pelvis
- C.** Hysteroscopy
- D.** Curettage of the uterine cavity
- E.** Hormone testing

**23.** A parturient woman is 30 years old, stage I of the labor is ongoing. The fetus is in the cephalic presentation. Auscultation of the fetal heart sounds detects bradycardia. Evaluation of cardiotocogram yielded the following data: decrease of basal heart rate down to 90/min., variability - monotonous (2 and less); late decelerations with amplitude of 50/min. Make the diagnosis and choose the obstetrical tactics necessary in this case:

- A.** Fetal distress. Urgent cesarean section delivery
- B.** Fetal distress. Vacuum extraction delivery
- C.** Normal condition of the fetus. Vaginal birth
- D.** Fetal distress. Stimulation of uterine contractions
- E.** Fetal distress. Forceps delivery

**24.** A 27-year-old woman complains of foul-smelling discharge from her genital tracts, pain in her lower abdomen, and elevated temperature. The complaints arose 2 days ago. She has a history of surgical abortion at the term of 8 weeks one week ago. Mirror examination: the uterine cervix is clear, external orifice produces foul-smelling discharge. Vaginal examination: the uterus lies in anteflexion, is mobile, painful, and slightly enlarged. The appendages are without changes. Make the provisional diagnosis:

- A.** Postabortal endometritis
- B.** Enterocolitis
- C.** Appendicitis
- D.** Acute respiratory disease
- E.** Salpingoophoritis

**25.** A 17-year-old girl has made an appointment with the doctor. She plans to begin her sex life. No signs of gynecological pathology were detected. In the family history the patient's grandmother had cervical cancer. The patient was consulted about the maintenance of her reproductive health. What recommendation will be the most helpful for prevention of invasive cervical cancer?

- A.** Vaccination against human papillomavirus (HPV)
- B.** Vitamins, calcium, omega-3
- C.** Immunomodulators
- D.** Antiviral and antibacterial drugs
- E.** Timely treatment of sexually transmitted diseases

1. A 38-year-old woman works in flax processing, she dries flax. She came to the hospital complaining of difficult breathing, constricting sensation in her chest, and cough attacks. These signs appear on the first day of her working week and gradually diminish on the following days. What respiratory disease is likely in this case?

- A. Byssinosis
- B. Silicosis
- C. Allergic rhinopharyngitis
- D. Bronchial asthma
- E. Asthmatic bronchitis

2. A district doctor has diagnosed one of his patients with dysentery. What accounting document reflects this type of morbidity?

- A. Urgent report
- B. Statistical report
- C. Report on a major non-epidemic disease
- D. Certificate of temporary disability
- E. Control card of a patient registered for regular check-ups

3. A 39-year-old man, a battery attendant, suddenly developed weakness, loss of appetite, nonlocalized colicky abdominal pains, and nausea. Objectively his skin is gray; there is a pink-gray stripe on his gums; the stomach is soft and sharply painful. Blood test detected erythrocytes with basophilic stippling and anemia. The patient has a history of peptic ulcer disease of the stomach. Constipation tends to occur every 3-4 days. What is the most likely provisional diagnosis?

- A. Saturnism (lead poisoning)
- B. Acute appendicitis
- C. Perforation of gastric ulcer
- D. Acute cholecystitis
- E. Chronic alcoholism

4. A 9-month-old infant presents with delayed tooth eruption and fontanel closure, weakness, and excessive sweating. What type of hypovitaminosis is the most likely in this child?

- A. Hypovitaminosis D
- B. Hypovitaminosis C
- C. Hypovitaminosis B<sub>1</sub>
- D. Hypovitaminosis B<sub>6</sub>
- E. Hypovitaminosis A

5. A 10-year-old girl exhibits high level of physical development ( $M + 3\sigma$ ), her body length increased by 10 cm within a year (which is double the norm for her age group), the number of permanent teeth corresponds with the age norm (20), the development of her secondary sex characteristics is three years ahead of her age (Ma, P, Ax, Menarche). Development rate ahead of her biological age can occur due to:

- A. Endocrine disorders
- B. Acceleration
- C. Certain components of her diet
- D. Sports training
- E. Deficient hygienic education

6. Employees work in conditions of high dust concentration. Certain chemical (silicon dioxide content) and physical properties of dust aerosols contribute to the development of occupational dust-induced diseases. What is the main physical property of dust aerosols?

- A. Dispersion
- B. Magnetization
- C. Electric charge
- D. Solubility
- E. Ionization

7. In the factory cafeteria there was an outbreak of food poisoning. Clinical presentation indicates staphylococcal etiology of this disease. 15 people are sick. To confirm the diagnosis of food poisoning, samples need to be sent to the laboratory. What samples should be obtained for analysis?

- A. Vomit masses
- B. Blood for hemoculture
- C. Blood (complete blood count)
- D. Urine
- E. Saliva

8. In April during the medical examination of various population groups, 27% of individuals presented with low working ability and rapid fatigability. The following symptoms were observed in the affected individuals: swollen friable gingiva that bleeds when pressed, hyperkeratosis follicularis not accompanied by skin dryness. These symptoms most likely result from the following pathology:

- A. C-hypovitaminosis
- B. Parodontosis
- C. A-hypovitaminosis
- D. B<sub>1</sub>-hypovitaminosis
- E. Polyhypovitaminosis

9. Increased general morbidity of the local population is observed in the area near a factory, where atmosphere is being intensively polluted with sulfurous gas. What effect does polluted air have on human body in this case?

- A. Chronic nonspecific
- B. Acute specific
- C. Acute nonspecific
- D. Chronic specific
- E. Selective

10. During medical examination of high and

middle school students, the doctors were assessing correlation between biological and calendar age of the school students based on the following criteria: height growth rate per year, ossification of the carpal bones, the number of permanent teeth. What additional development criterion should be assessed at this age?

- A. Development of secondary sex characteristics
- B. Body mass
- C. Chest circumference
- D. Vital capacity of lungs
- E. Hand strength

11. During analysis of morbidity in the city, it was determined that age structure of population is different in each district. What statistical method allows to exclude this factor, so that it would not skew the morbidity data?

- A. Standardization
- B. Wilcoxon signed-rank test
- C. Correlation-regression analysis
- D. Dynamic time series analysis
- E. Analysis of average values

12. Clinical statistical investigation was performed to determine effectiveness of a new pharmacological preparation for patients with ischemic heart disease. What parametric test (coefficient) can be used to estimate the reliability of the results?

- A. Student's t-distribution
- B. Sign test
- C. Matching factor
- D. Wilcoxon signed-rank test
- E. Kolmogorov-Smirnov test

13. In a rural health care area there is an increasing cervical cancer morbidity observed. The decision is made to conduct a medical examination of the women living in this locality. What type of medical examination is it?

- A. Target
- B. Preliminary
- C. Regular
- D. Complex
- E. Screening

14. In the process of hiring, a prospective employee has undergone preventive medical examination and was declared fit to work in this manufacturing environment. What type of preventive medical examination was it?

- A. Preliminary
- B. Scheduled
- C. Periodical
- D. Specific
- E. Comprehensive

15. On laboratory investigation of a pork

sample there is 1 dead trichinella detected in 24 sections. This meat should be:

- A. Sent for technical disposal
- B. Allowed for sale with no restrictions
- C. Processed and sold through public catering network
- D. Processed for boiled sausage production
- E. Frozen until the temperature of  $-10^{\circ}\text{C}$  is reached in the deep layers, with subsequent exposure to cold for 15 days

16. To assess the effectiveness of medical technologies and determine the power and direction of their effect on the public health indicators, the research was conducted to study the immunization rate of children and measles incidence rate by district. What method of statistical analysis should be applied in this case?

- A. Calculation of correlation coefficient
- B. Calculation of morbidity index among the nonvaccinated
- C. Calculation of matching factor
- D. Calculation of standardized ratio
- E. Calculation of statistical significance of the difference between two estimates

17. Having studied the relationship between the distance from villages to the local outpatient clinics and frequency of visits to the clinics among the rural population of this area, it was determined that the rank correlation coefficient in this case equals  $-0.9$ . How can this relationship be characterized?

- A. Strong inverse relationship
- B. Strong direct relationship
- C. Moderate inverse relationship
- D. Moderate direct relationship
- E. -

18. In the inpatient gynecological unit within a year 6500 women underwent treatment. They spent there a total of 102000 bed-days. What indicator of the gynecological unit work can be calculated based on these data?

- A. Average length of inpatient stay
- B. Average bed occupancy rate per year
- C. Number of beds by hospital department
- D. Bed turnover rate
- E. Planned bed occupancy rate per year

19. A middle school teacher with 4-year-long record of work was issued a medical certificate for pregnancy and childbirth leave. What amount of pay will she receive for the duration of her leave in this case?

- A. 100% of average salary
- B. 50% of average salary
- C. 70% of average salary
- D. 60% of average salary
- E. 80% of average salary

20. In the air of the feed kitchen at the

poultry factory, at the area where formula feed is being mixed, the dust concentration reaches  $200 \text{ mg/m}^3$ . Air microflora is represented predominantly by *Aspergillus* and *Mucor* fungi. What effect determines pathogenic properties of the dust?

- A. Allergenic
- B. Teratogenic
- C. Mutagenic
- D. Fibrogenic
- E. Toxic

21. During regular medical examination a lyceum student presents with signs of cheilitis that manifests as epithelial maceration in the area of lip seal. The lips are bright-red, with single vertical cracks covered with brown-red scabs. These clinical signs are most likely caused by insufficient content of the following in the diet:

- A. Riboflavin
- B. Ascorbic acid
- C. Retinol
- D. Thiamine
- E. Calciferol

22. A 30-year-old woman made an appointment with the family doctor for scheduled vaccination of her 2-year-old child. What type of healthcare provides such medical services?

- A. Primary healthcare
- B. Emergency aid
- C. Secondary healthcare
- D. Tertiary healthcare
- E. Palliative care

23. Human body receives from the atmosphere a number of chemicals. What type of action results in the combined effect that is less than the sum of isolated effects of these chemicals on the body?

- A. Antagonism
- B. Potentiation
- C. Isolated action
- D. Synergistic action
- E. Complex action

24. Clinical trials have proved the "Lipoflavon" drug to be effective for treatment of unstable angina pectoris in the control group and experimental group of patients. Neither patients nor researchers knew who belonged to which group. Name this type of study:

- A. Double blind study
- B. Simple blind study
- C. Triple-blind study
- D. Total-blind study
- E. Multicenter study