

УДК: 616-053.2-057.87:378.147

Horlenko O.M., Kossey G.B., Peresta M.I., Lukashchuk S.V.

Test control of knowledge in Pediatrics (KROK 2, for the
international students)

Uzhhorod, 2022

УУДК: 616-053.2-057.87:378.147

Автори:

Горленко Олеся Михайлівна, д.м.н., професор, зав. кафедри дитячих хвороб медичного факультету ДВНЗ «УжНУ»

Косей Габрієлла Барнабашівна, к.м.н., доцент кафедри кафедри дитячих хвороб медичного факультету ДВНЗ «УжНУ»

Переста Маріанна Іванівна, к.м.н., доцент кафедри кафедри дитячих хвороб медичного факультету ДВНЗ «УжНУ»

Лукашук Світлана Василівна, к.м.н., доцент кафедри дитячих хвороб медичного факультету ДВНЗ «УжНУ»

Горленко О.М., Косей Г.Б., Переста М.І., Лукашук С.В.

Збірник тестових завдань КРОК-2 по педіатрії

В методичній розробці, написаній групою авторів кафедри дитячих хвороб медичного факультету ДВНЗ «УжНУ», представлений набір тестових завдань зразку КРОК-2 по різним розділам педіатрії, включаючи кардіологію, пульмонологію, гастроентерологію, нефрологію, ендокринологію, гематологію, неонатологію та нутриціологію. Розрахована для студентів 6-го курсу медичних вузів, лікарів-інтернів, фахівців за спеціальністю педіатрія, сімейна медицина.

O. Horlenko, G. Kossey, M. Peresta, S. Lukashchuk

KROK-2 Pediatrics tests

The methodological guidance materials, written by the group of authors of sChildren's Diseases Department of the Uzhgorod National University, presents a set of KROK-2 oriented tests on various sections of pediatrics, including cardiology, pulmonology, gastroenterology, nephrology, endocrinology, hematology, neonatology, and nutrition. It is recommended for 6th year medical students, medical interns, pediatric and family medicine specialists.

Рецензенти:

Дербак М.А., д.м.н., професор, зав. кафедри факультетської терапії ДВНЗ «УжНУ»

Сірчак Є.С., д.м.н., професор, зав. кафедри пропедевтичної терапії ДВНЗ «УжНУ»

Рекомендовано до друку методичною комісією медичного факультету ДВНЗ «УжНУ»

(протокол № 2 від 26 вересня 2022 р.) та

Вченою Радою медичного факультету ДВНЗ «УжНУ»

(протокол № 2 від 19 жовтня 2022 р.)

INTRODUCTION

The methodological guidance material, written by a group of authors of the Department of Children's Diseases of the Medical Faculty of the State Medical University "UzhNU" has been designed for the independent work of applicants for higher education in the field of knowledge «Health care», specialty «Medicine» in preparation for the licensing integrated exam "KROK 2".

The test exam "KROK 2" is an integral part of the state certification of graduates of higher educational institutions and measures the quality indicators of the professional component of higher medical education.

In the guidance materials students will find a set of KROK-2 oriented tests on various sections of Pediatrics, including cardiology, pulmonology, gastroenterology, nephrology, endocrinology, hematology, neonatology, and nutrition.

Content

Cardiology	5
Rheumatology	10
Neonatology	13
Pulmonology	21
Gastroenterology	28
Nephrology	32
Endocrinology	36
Hematology	39
Nutrition	41

Cardiology

1. An infant was born with body mass of 3 kg and body length 50 cm. Now he is 3 years old. His brother is 7 years old, suffers from rheumatic fever. Mother asked a doctor for a cardiac check up of the 3-year-old son. Where is the left relative heart border located?

- A. 1 cm left from the left medioclavicular line
- B. 1 cm right from the left medioclavicular line
- C. Along the left medioclavicular line
- D. 1 cm left from the left parasternal line
- E. 1 cm right from the left parasternal line

2. A 13-year-old girl complains of periodic prickly pain in the heart region. Percussion revealed no changes of cardiac borders. Auscultation revealed arrhythmic enhanced heart sounds, extrasystole at the 20-25 cardiac impulse. ECG showed the sinus rhythm, impaired repolarization, single supraventricular extrasystoles at rest. What is the most likely diagnosis?

- A. Somatoform autonomic dysfunction
- B. Rheumatism
- C. Nonrheumatic carditis
- D. Myocardial degeneration
- E. Intoxication syndrome

3. An 8-year-old girl periodically has sudden short-term heart pain, sensation of chest compression, epigastric pain, dizziness, vomiting. Objectively: the patient is pale, respiratory rate - 40/min, jugular pulse is present. Heart rate - 185 bpm, of poor volume. BP - 75/40 mm Hg. ECG taken during an attack shows ectopic P waves, QRS wave is not deformed. At the end of an attack a compensatory pause is observed. The most likely cause of the attack is:

- A. Paroxysmal atrial tachycardia
- B. Sinus tachycardia
- C. Paroxysmal ventricular tachycardia
- D. Complete AV-block
- E. Atrial fibrillation

4. A 15-year-old patient suffers from headache, nasal haemorrhages, sense of lower extremity coldness. Objectively: muscles of shoulder girdle are developed, lower extremities are hypotrophied. Pulsation on the pedal and femoral arteries is sharply dampened. BP is 150/90 mm Hg, 90/60 in the legs. Systolic murmur can be auscultated above carotid arteries. What is the most probable diagnosis?

- A. Aorta coarctation
- B. Aorta aneurism
- C. Aortal stenosis
- D. Aortal insufficiency
- E. Coarctation of pulmonary artery

5. An 8-year-old boy developed a temperature of 37, 5°C two days after his recovery from the case of URTI. He complains of suffocation, heart pain. Objectively: the skin is pale, tachycardia, the I heart sound is weakened, short systolic murmur in the 4th intercostal area near the left edge of the breastbone. What heart disorder such clinical presentation is characteristic of?

- A. Nonrheumatic myocarditis
- B. Primary rheumatic carditis
- C. Myocardiodystrophy
- D. Fallot's tetrad
- E. Cardiomyopathy

6. A prematurely born girl is now 8 months old. She has dyspnea, tachycardia, hepatosplenomegaly, physical developmental lag, limb cyanosis. There is parasternal cardiac hump, auscultation revealed systolodiastolic murmur in the II intercostal space on the left. BP is 90/0 mm Hg. What disease can be suspected?

- A. Patent ductus arteriosus
- B. Coarctation of aorta
- C. Stenosis of aortal valve
- D. Stenosis of pulmonary artery
- E. Nonclosure of interventricular septum

7. A 14-year-old girl has fainted during a meeting. The day before she complained of a headache. The skin is pale, the limbs are cold, shallow breathing, heart sounds are muffled; heart rate is 51/min.; BP is 90/50 mm Hg. The abdomen is soft. Meningeal symptoms are negative. Make the provisional diagnosis:

- A. Collapse
- B. Unconsciousness
- C. Acute left ventricular failure
- D. Acute right ventricular failure
- E. Respiratory failure

8. A 15-year-old teenager has undergone medical examination in military recruitment center. The following was revealed: interval systolic murmur at the cardiac apex, accent of the II heart sound over the pulmonary artery, tachycardia. What additional examination method will be most informative for determining a diagnosis?

- A. Echocardiography
- B. Electrocardiography
- C. X-ray
- D. Phonocardiography
- E. Rheography

9. ECG revealed the following in a 10-year-old child: sharp acceleration of the heart rate - 240/min., P wave overlaps with T wave and deforms it, moderate lengthening of PQ interval, QRS complex is without changes. What pathology does this child have?

- A. Paroxysmal atrial tachycardia
- B. Atrial hypertrophy
- C. Ventricular hypertrophy
- D. WPW syndrome
- E. Extrasystole

10. A 16-year-old girl addressed a doctor with complaints of fatigability and dizziness. On heart auscultation: systolic murmur in the II intercostal area along the breastbone edge on the left. ECG revealed signs of the right ventricular hypertrophy. X-ray revealed dilatation of the the pulmonary artery trunk, enlargement of the right heart. What heart disorder is it?

- A. Pulmonary artery outflow stenosis

- B. Fallot's tetrad
- C. Defect of the interatrial septum
- D. Coarctation of aorta
- E. Pulmonary artery valve failure

11. A 12-year-old girl after a case of respiratory infection developed dyspnea at rest, paleness of skin. Heart rate is 110/min., BP is 90/55 mm Hg. Heart sounds are muffled. Borders of relative heart dullness: right - the parasternal line, upper - the III rib, left - 1,0 cm outwards from the midclavicular line. Make the provisional diagnosis:

- A. Infectious myocarditis
- B. Functional cardiopathy
- C. Somatoform autonomic dysfunction
- D. Hypertrophic cardiomyopathy
- E. Exudative pericarditis

12. A 5-year-old boy complains of severe dyspnea and sensation of lack of air. Objectively the child assumes orthopneic position, presents with marked peripheral cyanosis, drumstick fingers, nail plates resembling a "clock face", the borders of cardiac dullness are bilaterally extended; coarse systolic murmur can be detected over the whole surface of the heart and is especially pronounced in the II intercostal area on the left near the sternum. What disease can be characterized by such presentations?

- A. Fallot's tetrad
- B. Dilated cardiomyopathy
- C. Defect of the interventricular septum
- D. Primary bacterial endocarditis
- E. Defect of the interatrial septum

13. An 8-year-old child presents with blood pressure up to 180/100 mm Hg in the upper limbs accompanied by headaches, tinnitus, occasional nosebleeds, and high fatigability. On examination there is no pulse over the leg arteries. ECG shows left ventricular hypertrophy. MRI-scan shows aortic narrowing to 5 mm in the typical place. Coarctation of aorta is diagnosed. What kind of treatment should be prescribed in this case?

- A. Surgical
- B. Conservative

- C. Physical therapy
- D. Case monitoring
- E. Abstain from surgery in favor of complex conservative therapy

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

15. 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 dextroposition, ventricular septal defect, pulmonary artery stenosis, and right ventricular hypertrophy. What is the most likely diagnosis?

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

16. A 16-year-old boy developed dizziness. His heart rate is 35/min, blood pressure is 85/45mmHg, heart borders are not enlarged. Heart sounds are loud and clear. ECG shows P waves disconnected from QRS complex, dissociation and different rhythm of atria and ventricles is accompanied by varying location of P wave in relation to QRST complex. This presentation is the most characteristic of the following disease:

- A. Complete atrioventricular block (III degree)
- B. Extrasystole
- C. Sinus bradycardia
- D. Atrioventricular dissociation
- E. Atrioventricular block (II degree)

17. A 12-year-old girl after a case of respiratory infection developed dyspnea at rest, paleness of skin. Heart rate is 110/min, BP is 90/55 mmHg. Heart sounds are muffled. Borders of relative heart dullness: right- the left parasternal line, upper- the III rib, left- 1,0 cm outwards from the midclavicular line. Make the provisional diagnosis:

- A. Infectious myocarditis
- B. Functional cardiomyopathy
- C. Exudative pericarditis
- D. Hypertrophic cardiopathy
- E. Somatoform autonomic dysfunction

Rheumatology

1. A 12-year-old girl complains of general weakness, rise of body temperature up to 38, 2⁰ C, pain and swelling of knee joints, feeling of cardiac rhythm disruption. The child had tonsillitis 3 weeks ago. The knee joints are swollen, local raise of temperature is observed, mobility is reduced. Heart sounds are weakened, extrasystole is present; at the cardiac apex systolic noise can be auscultated, which is not conducted to the left axillary region. ESR is 38 mm/h. CRP 2+. Antistreptolysin- O titers are 400. The most likely disease is:

- A. Acute rheumatic fever
- B. Somatoform autonomic dysfunction
- C. Non-rheumatic carditis
- D. Juvenile rheumatoid arthritis
- E. Reactive arthritis

2. A 14-year-old girl complains of tooth caries; the tooth should be filled. Anamnesis states that artificial mitral valve was installed 2 years ago due to mitral insufficiency. What anti-bacterial drug should be prescribed to prevent infective endocarditis?

- A. Amoxicillin
- B. Lincomycin
- C. Ceftriaxone
- D. Erythromycin
- E. Midecamycin

3. An 11-year-old boy complains of general weakness, fever up to 38, 2°C, pain and swelling of the knee joints, sensation of irregular heartbeat. 3 weeks ago, the child had a case of tonsillitis. Knee joints are swollen, the overlying skin and skin of the knee region is reddened, local temperature is increased, movements are limited. Heart sounds are muffled, extrasystole is present, auscultation reveals apical systolic murmur that is not conducted to the left inguinal region. ESR is 38 mm/hour. CRP is 2+, antistreptolysin O titer - 400. What is the most likely diagnosis?

- A. Acute rheumatic fever
- B. Vegetative dysfunction
- C. Non-rheumatic carditis
- D. Juvenile rheumatoid arthritis
- E. Reactive arthritis

4. A 5-year-old girl was hospitalized with complaints of pain and swelling in the right knee joint, temperature rise up to 38, 4°C and a rash diagnosed as erythema annulare centrifugum. The signs developed 3 days after the recovery from a case of acute respiratory disease. Name the etiotropic drug to be prescribed:

- A. Augmentin
- B. Methotrexate
- C. Metypred (Methylprednisolone)
- D. Diclofenac sodium
- E. Captopril

5. A 10-year-old boy with symptoms of arthritis and myocarditis was delivered into a hospital. Based on clinical examination the preliminary 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

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

7. A 17-year-old girl complains of a pain in her knee and ankle joints and body temperature up to 39 C. 2 weeks ago, she had a case of acute tonsillitis. Objectively, her joints are swollen, sharply painful and their mobility is reduced. On the skin of her trunk and limbs there are barely visible circle-shaped pale pink spots. Heart rate is 95/min, blood pressure is 90/60 mmHg, heart sounds are weakened, there is a soft systolic noise over the apex. Make the provisional diagnosis:

- A. Acute rheumatic fever
- B. Erythema nodosum
- C. Rheumatoid arthritis
- D. Systemic scleroderma
- E. Reactive arthritis

Neonatology

1. A baby was born at 36 weeks of gestation. Delivery was normal, by natural way. The baby has a large cephalohematoma. The results of blood count are: Hb- 120g/l, Er- $3,5 \cdot 10^{12}/l$, total serum bilirubin - 123 mmol/l, direct bili- rubin - 11 mmol/l, indirect - 112 mmol/l. What are the causes of hyperbilirubinemia in this case?

- A. Erythrocyte hemolysis
- B. Intravascular hemolysis
- C. Disturbance of the conjugative function of liver
- D. Bile condensing
- E. Mechanical obstruction of the bile outflow

2. A baby was born by a young smoker. The labour was complicated by uterine inertia, difficult delivery of the baby's head and shoulders. The baby's Apgar score was 4. Which of the following is a risk factor for a spinal cord injury?

- A. Difficult delivery of the head and shoulders
- B. Young age of the mother
- C. Pernicious habits
- D. Uterine inertia
- E. Chronic hypoxia

3. A newborn infant (the first labor, lasted for 26 hours) is 1-day-old, postmature; body weight is 3850 g; body length is 52 cm. Delivery was performed by applying obstetrical forceps in sincipital presentation, Apgar score is 1/3. The face is bluish-pale. The head is thrown back; severe birth trauma is present; the infant is excitable, shrill "cerebral scream" is present; the eyes are half-open; facial expression is attentive; hyperesthesia, hypersthenia and readiness for convulsions are present. Liquor has high content of erythrocytes, lymphocytic cytositis occurs. The most likely diagnosis is:

- A. Subarachnoid hemorrhage
- B. Epidural hemorrhage
- C. Subdural hemorrhage
- D. Intraventricular hemorrhage
- E. Intracerebral hemorrhage

4. A 7-year-old child became ill again 2 weeks after he had tonsillitis. There are the following complaints: temperature rise up to 38°C, hemorrhagic rash on the extremities, enlargement of the ankle joints. Blood test: hemoglobin is 120 g/l, platelets are $170 \cdot 10^9/l$, ESR is 30 mm/h. Urine test: proteinuria up to 0,7 g/l, cylinders - 5-6 in the field of vision, erythrocytes - 8-10 in the field of vision. What mechanism of hemorrhagic syndrome is present in the given case?

- A. Vessel wall damage caused by immune complexes
- B. Platelet dysfunction
- C. Suppression of hematopoietic stem cells
- D. Decrease of adhesive-aggregative function of platelets
- E. Vessel wall damage caused by bacteria

5. An infant has been born at the 41st week of gestation. The pregnancy was complicated with severe gestosis of the second semester. The weight of the baby is 2400 g, the height is cm. Objectively: the skin is flabby, the layer of subcutaneous fat is thin, hypomyotonia, neonatal reflexes are weak. The internal organs are without pathologic changes. This newborn can be estimated as a:

- A. Full-term infant with prenatal growth retardation
- B. Premature infant
- C. Immature infant
- D. Postmature infant
- E. Full-term infant with normal body weight

6. A full-term newborn (born with the body weight of 3900 g at gestational age of 39 weeks) on the first day of his life developed respiratory disturbances: dyspnea, arrhythmic respiration, cyanosis attacks. On examination there is paradoxical respiration observed and left side of the chest lags behind in the act of breathing. On auscultation the respiration is weakened in the lungs on the left. Neurologist diagnosed the patient with left-sided Erb-Duchenne palsy. Complete blood count shows no changes. What is the most likely diagnosis?

- A. Left-sided diaphragm paresis
- B. Congenital pneumonia

- C. Left-sided pneumothorax
- D. Respiratory distress syndrome
- E. Transient tachypnea of the newborn

7. A 12-year-old child had three attacks of acute rheumatic fever accompanied by carditis. Examination revealed the symptoms of chronic tonsillitis, mitral insufficiency, and carious teeth. What is the optimal method of secondary prophylaxis?

- A. Year-round bicillin prophylaxis until the age of 25
- B. Course of cardiotropic drugs twice a year
- C. Year-round bicillin prophylaxis for 3 years
- D. Tonsillectomy
- E. Oral cavity sanitation

8. During last several weeks an 11-year-old girl has been complaining of dyspnea and edema of shins and feet after physical exercise. After a long rest or sleep through the night her edemas diminish significantly. On clinical examination there are enlarged liver and rasping systolic murmur over the cardiac area. Blood and urine analyses are without changes. What is the most likely cause of the child's edema?

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

9. A 10-year-old boy is delivered into a polytrauma unit after he received a blunt trauma of the thorax, having fallen from the bicycle. Upon hospitalization his blood pressure is 110/80 mm Hg, heart rate is 96/min. Chest X-ray is noncontributive to the diagnosis. Echocardiogram shows free liquid in the pericardial cavity, in the amount of up to 100 ml. In an hour after the hospitalization the patient started to develop increasing signs of heart failure: jugular venous distention, decreased blood pressure down to 90/70 mm Hg, tachycardia up to 120/min. On auscultation muffled heart sounds. What would be the primary tactics of a physician?

- A. Pericardiocentesis
- B. Cardiac glycosides intravenously

- C. Constant oxygenotherapy
- D. Diuretics intravenously
- E. Antibiotics intravenously

10. 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

11. A 12-year-old boy with hypertrophic cardiomyopathy complains of dyspnea caused by the slightest physical exertion. Echocardiography detected asymmetrical left ventricular hypertrophy, signs of pulmonary hypertension, and left ventricular dilatation, its ejection fraction is 59%. These developments are indicative of:

- A. Heart failure with preserved ejection fraction
- B. Heart failure with reduced ejection fraction
- C. Primary pulmonary hypertension
- D. Essential hypertension
- E. Symptomatic arterial hypertension

12. The right arm of a newborn is stretched along the torso with all its joints extended; the shoulder is rotated inwards, while the forearm is pronated, the hand is in the position of palmar flexion. Spontaneous movements are absent in the shoulder and elbow joints, passive movements are painless. What is the most likely diagnosis?

- A. Duchenne-Erb palsy, superior proximal type
- B. Dejerine-Klumpke palsy, inferior distal type
- C. Total obstetric palsy
- D. Osteomyelitis of the right humerus
- E. Poliomyelitis

13. A 3-day-old infant with hyperbilirubinemia (428 $\mu\text{mol/L}$) developed disturbances manifesting as periodical excitation and convulsions against the background of inertness, hypotension, hypodynamia, and inhibition of unconditioned reflexes, convergent strabismus, rotational nystagmus, and setting-sun eye phenomenon. What is the most likely cause of such symptoms?

- A. Bilirubin encephalopathy
- B. Craniocerebral injury
- C. Brain tumor
- D. Hydrocephalus
- E. Infantile cerebral paralysis

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

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

15. A 22-day-old infant developed subcutaneous red nodes from 1.0 to 1.5 cm in size on the scalp: later the nodes suppurred. Temperature increased up to 37.7°C intoxication symptoms appeared. regional lymph nodes enlarged. Complete blood count: anemia, leukocytosis. neutrocytosis, increased ESR. What diagnosis can be made?

- A. Pemphigus
- B. Scalp phlegmon
- C. Vesiculo Pustulosis
- D. *Pseudo Furunculosis

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

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

18. A full-term newborn (born with the body weight of 3900 g at gestational age of 39 weeks) on the first day of his life developed respiratory disturbances: dyspnea, arrhythmic respiration, cyanosis attacks. On examination there is paradoxical respiration observed and left side of the chest lags behind in the act of breathing. On auscultation the respiration is weakened in the lungs on the left. Neurologist diagnosed the patient with left- sided Erb-Duchenne palsy. Complete blood count shows no changes. What is the most likely diagnosis?

- A. Left-sided diaphragm paresis
- B. Respiratory distress syndrome
- C. Left-sided pneumonia
- D. Transient tachypnea of the newborn
- E. Congenital pneumonia

19. 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. Toxic erythema
- B. *Pemphigus neonatorum
- C. Pseudo Furunculosis
- D. Vesiculo Pustulosis
- E. Pemphigus syphiliticus

20. A newborn girl has an 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 inwards, the elbow is extended, the forearm pronated, and the whole upper limb resembles the arm of a doll. What is the most likely clinical diagnosis in this case?

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

21. A child was born at 40 weeks of gestation with the weight of 3700g. The child's Apgar score is 7/9. The baby was put to breast immediately after birth and suckled actively. On the 3rd day of life, the child's weight decreased to 3600g. What transitory condition is observed in this child?

- A. Physiological weight loss
- B. Uric acid infarction
- C. Toxic erythema
- D. Transient dysbiosis
- E. Physiological jaundice

22. An 8-day-old boy was delivered to the hospital on the second day after the onset of the disease. His parents complain of his fussiness, regurgitation, body temperature up to 38.5 C, red skin with infiltration in the lumbar area. His medical history has no peculiarities. The child is in the severe condition, inert, pale, suckles poorly. In the lumbar area, on the sacrum and buttocks there is a tense infiltration with hyperemic and cyanotic areas and with a soft spot 8×7 cm in its center. the stool is 10 times in 24 hours, with green and mucous admixtures. What is the most likely diagnosis?

- A. Phlegmon of the newborn
- B. Hemangioma
- C. Erysipelas
- D. Congenital soft tissue tumor
- E. Adiponecrosis

23. A newborn has a round red formation in the suprapubic region. Examination shows that urine is being discharged in pulses from the two orifices located in the lower part of this formation. Name this developmental anomaly:

- A. Bladder extrophy
- B. Vesico-umbilical fistula
- C. Bladder agenesis
- D. Bladder diverticulum
- E. Urachal cyst

24. After the pregnant woman's water broke, it was noted that they are significantly contaminated with meconium. Upon birth, the baby is not breathing, remains inert, the skin is cyanotic and covered in meconium, heart rate is 98/min. What resuscitation measures should be taken after the baby is born?

- A. Direct laryngoscopy, intubation, sanitation of the trachea
- B. Tactile stimulation of the newborn
- C. Sanation of the upper respiratory tracts with a rubber balloon
- D. Give adrenaline intravenously
- E. Artificial pulmonary ventilation with a mask and Ambu bag

Pulmonology

1. A 9-year-old boy has been suffering from bronchoectasis since he was 3. Exacerbations occur quite often, 3-4 times a year. Conservative therapy results in short periods of remission. The disease is progressing, the child has physical retardation. The child's skin is pale, acrocyanotic, he has "watch glass" nail deformation. Bronchography revealed saccular bronchiectases of the lower lobe of his right lung. What is the further treatment tactics?

- A. Surgical treatment
- B. Further conservative therapy
- C. Physiotherapeutic treatment
- D. Sanatorium-and-spa treatment
- E. Tempering of the child's organism

2. A 9-month-old child presents with fever, cough, dyspnea. The symptoms appeared 5 days ago after a contact with a person having URTI. Objectively: the child is in grave condition. Temperature of 38°C, cyanosis of nasolabial triangle is present. Respiration rate 54/min, nasal flaring while breathing. There was percussion dullness on the right below the scapula angle, and tympanic sound over the rest of lungs. Auscultation revealed bilateral fine moist rales (crackles) predominating on the right. What is the most likely diagnosis?

- A. Acute pneumonia
- B. URTI

C. Acute laryngotracheitis

D. Acute bronchitis

E. Acute bronchiolitis

3. A 3-month-old girl has rhinitis, dyspnea, dry cough. She has been sick for 2 days. Objectively: pale skin, acrocyanosis, hypopnoe; breathing rate is 80/min; over the whole pulmonary surface there is vesiculotympanitic (bandbox) resonance observed with numerous bubbling rales (crackles). The most likely diagnosis is:

A. Acute bronchiolitis

B. Pneumonia

C. Mucoviscidosis

D. Foreign body in airways

E. Acute bronchitis

4. When playing in a kindergarten a 3- year-old child suddenly developed dyspnea, paroxysmal compulsive dry cough. The face is cyanotic, the eyes are tearful. Vomiting occurred several times. Breathing is weakened over the whole right side of the chest. The provisional diagnosis is:

A. Foreign body

B. Obstructive bronchitis

C. Bronchial asthma

D. Hysteria fit

E. Stenosing laryngotracheitis

5. A 2-year-old child has been suffering since birth from recurring inflammatory diseases of lungs, purulent pansinusites, hearing deterioration, multiple cylindrical bronchiectases. Dextrocardia is observed. On biopsy: ultrastructural change of ciliated epithelium. What is the basis of the given syndrome?

A. Primary ciliary dyskinesia

B. Proteoglycans insufficiency

C. Surfactant deficit

D. Muscle cells atony

E. Alpha-1-antitrypsin deficiency

6. A 2-year-old girl has a medical history of recurrent obstructive pneumonia. In the lungs various moist and dry crackles can be auscultated, breath sounds are diminished. Sputum is thick, viscous and difficult to expectorate. Drumstick fingers and physical developmental retardation are observed. What preliminary diagnosis can be made?

- A. Pulmonary mucoviscidosis
- B. Recurrent bronchitis
- C. Bronchial asthma
- D. Congenital polycystic lungs
- E. Pulmonary tuberculosis

7. A 10-year-old patient has a history of mild bronchial asthma. During a regular check-up the patient should be recommended:

- A. To avoid allergenic food
- B. To avoid body tempering procedures
- C. To avoid sports
- D. To avoid spa treatment
- E. To avoid going to the seaside

8. A 9-month-old child presents with fever, cough, dyspnea. The symptoms appeared 5 days ago after a contact with a person with URTI. Objectively: the child is in grave condition. Temperature is 38°C, cyanosis of nasolabial triangle is present. RR- 54/min, nasal flaring during breathing is observed. There was percussion dullness on the right below the scapula angle and tympanic sound over the other areas of lungs. Auscultation revealed bilateral fine moist crackles predominating on the right. What is the most likely diagnosis?

- 23 A. Pneumonia
- 24 B. URTI
- 25 C. Acute laryngotracheitis
- 26 D. Acute bronchitis
- 27 E. Acute bronchiolitis

9. The mother of a 3-month-old child came to a family doctor with complaints of her child being physically underdeveloped and suffering from cough attacks and dyspnea. Anamnesis: the child is the result of the second full-term pregnancy with the risk of miscarriage (the first

child died of pulmonary pathology at the age of 4 months, according to the mother). Body mass at birth is 2500 g. Cough attacks were observed from the first days of life, twice the child was treated for bronchitis. Considering the severity of the child's condition the doctor made the referral for hospitalization. What diagnosis was most likely stated in the referral?

- 23
- A. Mucoviscidosis (Cystic fibrosis)
 - B. Acute obstructive bronchitis
 - C. Recurrent obstructive bronchitis
 - D. Pertussis
 - E. Acute obstructive pneumonia

10. A 10-year-old boy was brought to 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 B₂-agonists
- B. Claritin (Loratadine)
- C. Dexamethasone
- D. Adrenaline
- E. Euphylline (Aminophylline)

11. A 2-year-old child with persistent 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. Emphysema
- B. Atelectasis
- C. *Pleurisy

- D. Bronchitis
- E. Pneumonia

12. 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. Bronchiolitis
- C. Bronchial asthma
- D. Airway foreign body
- E. Obstructive bronchitis

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

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

15. A 10-year-old boy came to the polyclinic with complaints of stuffy nose. It is known that these signs occur in the child periodically (in spring and autumn). He has a history of atopic dermatitis. The father of the child had bronchial asthma. Objectively, the boy's face is pale and slightly swollen. Respirations are 22/min. Auscultation detects vesicular respiration over the lungs. Rhinoscopy shows swollen and pale nasal mucosa. What disease can be suspected?

- A. Allergic rhinitis
- B. Recurrent respiratory disease
- C. Accute rhinitis
- D. Accute maxillary sinusitis
- E. Accute adenoiditis

16. A 7-year-old boy after a fall from a height presents with rapid and shallow breathing and cyanotic face. The right half of his thorax is distended and takes no part in the respiration. Percussion detects tympanitis in the affected area, while auscultation detects no breathing there. What pathology is the most likely cause of this clinical presentation? What instrumental examination would be most informative in this case?

- A. Right-sided tension pneumothorax. Chest X-ray
- B. Mediastinitis. Survey X-ray of the chest
- C. Airway foreign body. Diagnostic therapeutic bronchoscopy
- D. Right-sided hemothorax. Survey X-ray of the chest
- E. Tension cyst of the right lung. Tracheobronchoscopy

17. After playing with " mosaics", a two-year-old child suddenly developed cough, stridorous respiration, urges to vomit, and cyanosis against the background of relative stomatic health. What should the doctor suspect first when examining the child?

- A. Foreign body aspiration
- B. Acute laryngotracheitis
- C. Pneumonia
- D. Acute obstructive bronchitis
- E. Pertussis

18. A 6-year-old girl complains of body temperature up to 39 C, rhinitis, dry cough, dyspnea. She has been presenting with these signs for 5 days already. On examination her condition is of moderate severity. Her dyspnea is of mixed genesis. Respirations are 28/min. Percussion produces a dull sound in the right lower segments; in the same area auscultation detects weakened respiration and fine vesicular wet crackles; coarse respiration can be detected on the left. Make the provisional diagnosis:

- A. Right-sided community acquired pneumonia
- B. Acute simple bronchitis
- C. Acute obstructive bronchitis
- D. Stenosing laryngotracheitis
- E. Acute bronchiolitis

Gastroenterology

1. A 7-year-old child complains of cramping pain occurring after mental exertion, cold drinks and eating ice-cream. Instrumental examination allowed to diagnose biliary dyskinesia of hypertensive type. What group of drugs should be prescribed for treatment?

- A. Antispasmodics and choleretics
- B. Choleretics and cholekinetics
- C. Sedatives and cholekinetics
- D. Antioxydants
- E. Antibiotics

2. A child is 3-week-old. Since his birth periodic vomiting is observed occurring several minutes after feeding. Vomit mass does not exceed previous feeding volume. Body mass is appropriate to the child's age. What is the most likely cause for the symptoms described?

- A. Pylorospasm
- B. Esophageal chaliasia
- C. Adrenogenital syndrome
- D. Pylorostenosis
- E. Esophageal achaliasia

3. Head circumference of a 1-month-old boy with signs of excitement is 37 cm, prefontanel is 2x2 cm large. After feeding the child regurgitates small portions of milk; stool is normal in its volume and composition. Muscle tone is within norm. What is the most likely diagnosis?

- A. Pylorospasm
- B. Meningitis
- C. Pylorostenosis
- D. Microcephaly
- E. Craniostenosis

4. For the last 3 years a 12-year-old boy has been suffering from stomachache, abdominal distension, nausea, periodical liquid fatty stool, grey in color, with rotten smell. On palpation: pain in the epigastrium, Desjardins' pancreatic point and

Chauffard's triangle; positive Mayo-Robson's sign. Insufficiency of pancreas exocrine function is suspected. What method is the most informative for pancreas exocrine function assessment?

- A. Detection of elastase-1 in feces
- B. Determining trypsin content in blood serum
- C. Pancreas echography
- D. Determining amylase content in blood and urine
- E. Scatological test

5. 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 lambliaiasis (Giardiasis)
- C. Infectious enteritis
- D. Drug-induced enteritis
- E. Functional dyspepsia

6. A 3-month-old child presents with saffron-yellow coloring of the skin, sclera, and mucous membranes. The abdomen is enlarged, hepatomegaly and splenomegaly are observed. In blood there is conjugated bilirubin-induced hyperbilirubinemia. On intravenous cholangiocholangiography: opacified bile is discharged into the intestine. Transaminase activity is normal. What is the most likely diagnosis?

- A. Biliary atresia
- B. Physiologic jaundice
- C. Hemolytic disease of newborn
- D. Crigler-Najjar syndrome
- E. Congenital hepatitis

7. A 10-year-old girl complains of stomachache that appears and intensifies after she eats rough or spicy food, sour eructation, heartburn, frequent constipations, headaches, irritability. She has been presenting with these signs for 12 months. Her meals are irregular and consist of dry food. Objectively her diet is sufficient in calories. The tongue is moist

with white coating near the root. The abdomen is soft and painful in the epigastrium. What method would be optimal for diagnosis-making in this case?

- A. Esophagogastroduodenoscopy
- B. Intra-gastric pH-metry
- C. Fractional gastric analysis (Fractional test meals)
- D. Phase-contrast X-ray imaging
- E. Biochemical blood test

8. A 5-year-old child that contacts with viral hepatitis in the kindergarten presents with increased body temperature up to 38°C, weakness, low appetite, single case of vomiting, dull pain in the subcostal area on the right. The child is provisionally diagnosed with viral hepatitis. What examination would be the most informative for diagnosis confirmation?

- A. ALT activity in blood
- B. Urine analysis for bile pigments
- C. Feces analysis for stercobilin
- D. Blood test for bilirubin
- E. Thymol turbidity test

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

10. A 17-year old girl has been suffering from hepatic cirrhosis for 3 years. Lately her periods of excitement have been intermittent with depression, she does not sleep enough. Objectively her condition is severe, the girl is sluggish, gives one-word responses, has tremor in her extremities, her skin is icteric, with single hemorrhagic rashes. Name the likely complication of her disease:

- A. Hepatic encephalopathy
- B. Sepsis
- C. Bipolar affective disorder
- D. Reye syndrome
- E. Kidney failure

11. A 2.5-year –old child is ill for the second day. The onset of the disease was associated with the temperature up to 37.8 C, a single bout of vomiting, a watery diarrhea up to 5 times per day. During the second day, vomiting occurred twice, body temperature is 38.0C, the child has low appetite, watery diarrhea continues. The treatment of the child should start with the following:

- A. Prescribe oral rehydration
- B. Prescribe cephtriaxone
- C. Prescribe polymyxin
- D. Prescribe nifuroxazide
- E. Prescribe loperamide

Nephrology

1. 2 weeks after recovering from tonsillitis an 8-year-old boy developed edemas of face and lower limbs. Objectively: the patient is in grave condition, BP - 120/80 mm Hg. Urine is of dark brown colour. Oliguria is present. On urine analysis: specific gravity - 1,015, protein - 1,2 g/l, RBCs are leached and cover the whole vision field, granular casts - 1-2 in the vision field, salts are represented by urates (large quantity). What is the most likely diagnosis?

 - A. Acute glomerulonephritis with nephritic syndrome
 - B. Acute glomerulonephritis with nephrotic syndrome
 - C. Acute glomerulonephritis with nephrotic syndrome, hematuria and hypertension
 - D. Acute glomerulonephritis with isolated urinary syndrome
 - E. Nephrolithiasis

2. A 2-year-old child in a satisfactory condition periodically presents with moderate proteinuria, microhematuria. US results: the left kidney is undetectable, the right one is enlarged, there are signs of double pyelocaliceal system. What investigation is required to specify the diagnosis?

 - A. Excretory urography
 - B. Micturating cystography
 - C. Retrograde urography
 - D. Doppler study of renal vessels
 - E. Radioisotope renal scan

3. A 10-year-old boy had a case of viral hepatitis type B four years ago. Currently the assumption was made about the formation of hepatic cirrhosis in the patient. What additional investigation can clarify the diagnosis?

 - A. Renal needle biopsy
 - B. Proteinogram
 - C. Echocholecystography
 - D. Markers of viral hepatitis type B
 - E. Transaminase level measurement

4. During preventive ultrasound scan of abdomen performed during regular check-up in a school the following was revealed in an 11-year-old student of the 5th grade: the left kidney

is 3 cm below the normal position, its shape, size and structure are within the norm, the contralateral kidney cannot be observed at its proper place. The preliminary diagnosis is as follows: congenital anomaly of renal development, dystopic left kidney, right kidney is absent or pelvic dystopic. What X-ray method would be required for making the final diagnosis and determining the functional capacity of both kidneys?

- A. Renal dynamic scintigraphy
- B. Radioimmunoassay
- C. Radionuclide renography
- D. Thermography
- E. Excretory urography

5. A 13-year-old girl complains of fatigability, frequent headaches, cardialgia. Eight years ago she had a case of pyelonephritis. Urine analyses periodically revealed leukocyturia. The child has undergone no further treatment. On examination: increased BP up to 150/100 mm Hg. Ultrasound investigation revealed significant reduction of the right kidney. What process is leading in arterial hypertension pathogenesis in this case?

- A. Hyperactivity of renin-angiotensin system
- B. Disruption of water-electrolytic balance
- C. Disruption of renal circulation
- D. Hypersympathicotonia
- E. Increased cortisol level

6. A 3-year-old girl is being treated at a resuscitation unit with diagnosis "acute kidney failure, oligoanuric stage". ECG: high T wave, extended QRS complex, displacement of S-T interval downwards below the isoline. What electrolyte imbalance is it?

- A. Hyperkalemia
- B. Hypokalemia
- C. Hypocalcemia
- D. Hypercalcemia
- E. Hyperphosphatemia

7. A 9-year-old girl complains of fever up to 37,5°C, headache, inertness, weakness, loss of appetite, stomachache, and frequent painful urination. Provisional diagnosis of acute pyelonephritis is made. Clinical urine analysis: specific gravity - 1018, no protein, leukocytes

- 10-15 in the vision field. What investigation method can verify the diagnosis of urinary system infection?

- A. Bacteriological inoculation of urine
- B. Rehberg test (creatinine clearance test)
- C. Zymnitsky test (measurement of daily diuresis)
- D. Complete blood count

8. A 7-year-old boy has been an inpatient for 1.5 months. He had been delivered to the hospital with complaints of edemas all over his body, low urine output, and headache. Clinical urinalysis: proteins - 7.1 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

9. An 8-year-old girl with complaints of painful urination, frequent low-volume urination, and leukocyturia was diagnosed with acute cystitis. 10 days before the disease onset she was treated by the gynecologist for acute vulvitis. 5 days ago she presented with mild catarrhal symptoms. Her mother ascribes the child's disease to her overexposure to cold. Specify the most likely infection route:

- A. Ascending
- B. Descending
- C. Hematogenic
- D. Contact
- E. Lymphogenic

10. 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 1-2 in the vision leukocytes – 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 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. Isolated urinary
- B. Nephritic
- C. *Nephrotic
- D. Mixed
- E. Hematuric

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°C, and pain in her left lumbar area. What examination should be conducted first to clarify the cause of urinary infection recurrence?

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

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

Endocrinology

1. A 14-year-old girl has been presenting with irritability and tearfulness for about a year. A year ago she was also found to have diffuse enlargement of the thyroid gland (II grade). This condition was regarded as a pubertal manifestation, the girl did not undergo any treatment. The girl's irritability gradually gave place to a complete apathy. The girl got puffy face, soft tissues pastosity, bradycardia, constipations. Skin pallor and gland density progressed, the skin got a waxen hue. What disease may be assumed?

- A. Autoimmune thyroiditis
- B. Diffuse toxic goiter
- C. Thyroid carcinoma
- D. Subacute thyroiditis
- E. Juvenile basophilism

2. An 8-year-old boy, who has been suffering from diabetes mellitus for 3 years, was delivered to a hospital in a condition of hyperglycemic coma. Primary dose of insulin should be prescribed basing on the following calculation:

- A. 0,1-0,2 units/kg of body mass per hour
- B. 0,05 units/kg of body mass per hour
- C. 0,2-0,3 units/kg of body mass per hour
- D. 0,3-0,4 units/kg of body mass per hour
- E. 0,4-0,5 units/kg of body mass per hour

2. A 15-year-old patient complains of excessive body weight, headache, irritability, rapid fatigability. Significant increase of body weight occurred at the age of 14. Objectively: weight is 90 kg; height is 160 cm, proportional body built. Fatty tissue is distributed evenly. There are thin pink striae (stretch marks) on the thighs, abdomen and mammary glands. BP 145/90 mm Hg. Provisional diagnosis is:

- A. Pubertate dyspituitarism
- B. Alimentary constitutive obesity
- C. Somatoform autonomic dysfunction
- D. Itsenko-Cushing's disease
- E. Cushing's syndrome

3. Mother of an 8-year-old girl complains that the child is too short and has excessive body weight. Objectively: obesity with fat deposits on the torso and face (round moon-like face), acne, striae on the thighs and lower abdomen, hirsutism. What hormone can cause such symptoms, when in excess?

- A. Cortisol
- B. Thyroxin
- C. Testosterone
- D. Insulin
- E. Glucagon

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 B₁
- D. Hypovitaminosis B₆
- E. Hypovitaminosis A

5. A 10-year-old girl exhibits high level of physical development ($+3\sigma$), 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. 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. Hypothalamic obesity
- B. *Alimentary constitutive obesity
- C. Adrenal obesity
- D. Hypothalamic syndrome of puberty
- E. Hypothyroid obesity

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

8. A 10-year-old girl exhibits a high level of physical development (M + 30). 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. Sports training
- B. Acceleration
- C. Deficient hygienic education
- D. *Endocrine disorders
- E. Certain components of her diet

9. During a regular examination, an 8-year old girl with type 1 diabetes mellitus presents with a swelling on the anterior surface of her hip. The swelling is 3 cm in diameter, dense, painless on palpation. The skin over this formation has normal color and temperature. Localization of the swelling matches the place where the girl usually receives her insulin injections. What is the most likely cause of this clinical presentation?

- A. Development of hypertrophic lipodystrophy
- B. Development of atrophic lipodystrophy
- C. Formation of post-injection infiltration
- D. Formation of post-injection abscess
- E. Allergic response

Hematology

1. A 5-year-old child has body temperature risen up to febrile numbers, suffers from inertness, weakness. Examination revealed hemorrhage on the skin of limbs and torso. Enlargement of cervical and axillary lymph nodes can be detected. The liver is 4 cm below the costal arch; the spleen is 6 cm below the costal arch. Blood test: erythrocytes - $2,3 \cdot 10^{12}/l$, Hb- 60 g/l, platelets - $40 \cdot 10^9/l$, leukocytes - $32,8 \cdot 10^9/l$, eosinophiles - 1%, band neutrophiles - 1%, segmented neutrophiles - 12%, lymphocytes - 46%, monocytes - 1%, blasts - 40%, Duke's bleeding time test result is 9 min. What examination is necessary to make the diagnosis?

- A. Myelogram
- B. Lymph nodes biopsy
- C. US of abdominal cavity
- D. Detection of hepatitis markers
- E. Investigation of platelets dynamic functions

2. On the 3rd day of life a newborn, who had suffered birth asphyxia, developed hemorrhage from the umbilical wound. Laboratory analysis reveals hypocoagulation, thrombocytopenia, and hypofibrinogenemia. What is the cause of such clinical developments?

- A. Disseminated intravascular coagulation
- B. Hemorrhagic disease of newborn
- C. Congenital angiopathy
- D. Thrombocytopenic purpura
- E. Umbilical vessel trauma

3. A 3-year-old child has been delivered to a hospital with complaints of pain in the legs, fever, 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)

4. 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. Dysmenorrhea
- C. Somatoform autonomic dysfunction of hypotonic type
- D. Migraine
- E. Gastritis

5. Disease onset was acute. A child developed general weakness, pain in the joints, and fever. 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 paraumbilical area; there are signs of intestinal hemorrhage. What is the most likely diagnosis?

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

Nutrition

1. 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. Drug-induced enteritis
- B. Infectious enteritis
- C. Functional dyspepsia
- D. *Lactase deficiency
- E. Intestinal lambliaiasis (Giardiasis)

2. 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. Buckwheat porridge
- B. Semolina porridge
- C. Fermented dairy products

- D. Grated apple
- E. *Vegetable puree

3. After semolina was introduced into the diet, a 1-year old child for 2 months has been presenting with loss of appetite, irritability, loss of body mass, and loss of previously learned skills. The feces are copious and foul smelling. The skin is pale and dry, the hair is brittle. The abdomen is distended, while the limbs are thin. Stool test shows high levels of fatty acids. What is the most likely diagnosis?

- A. Celiac disease
- B. Functional diarrhea
- C. Mucoviscidosis
- D. Lactase deficiency
- E. Irritable bowel syndrome

4. On the 5th day after giving birth a post parturient woman complains of a pain in her left mammary gland and body temperature up to 38.1°C. Examination shows that her mammary gland is enlarged and painful on palpation, the nipple is edematous and has fissures, the upper external quadrant of the gland is hyperemic. Name the measures that would have prevented the development of this complication in the patient

- A. Feeding on demand, expression of breast milk, prevention of nipple fissures
- B. Stop breastfeeding when fissures appear
- C. Feeding on schedule
- D. Constant expression of breast milk
- E. Feeding no longer than 10 minutes through an overlay

Correct answers

Cardiology

1. A

2. A

3. A

4. A

5. A

6. A

7. A

8. A

9. A

10. A

11. A

12. A

13. A

14. B

15. E

16. A

17. A

Rheumatology

1. A

2. A

3. A

4. A

5. A

6. B

7. A

Neonatology

1. A

2. A

3. A

4. A

- 5. A
- 6. A
- 7. A
- 8. A
- 9. A
- 10. A
- 11. A
- 12. A
- 13. A
- 14. A
- 15. A
- 16. B
- 17. B
- 18. A
- 19. B
- 20. B
- 21. A
- 22. A
- 23. A
- 24. A

Pulmonology

- 1. A
- 2. A
- 3. A
- 4. A
- 5. A
- 6. A
- 7. A
- 8. A
- 9. A
- 10. A
- 11. A
- 12. A

- 13. D
- 14. B
- 15. A
- 16. A
- 17. A
- 18. A

Gastroenterology

- 1. A
- 2. A
- 3. A
- 4. A
- 5. A
- 6. A
- 7. A
- 8. A
- 9. C
- 10. A
- 11. A

Nephrology

- 1. A
- 2. A
- 3. A
- 4. A
- 5. A
- 6. A
- 7. A
- 8. A
- 9. A
- 10. C
- 11. E
- 12. E

Endocrinology

1. A
2. A
3. A
4. A
5. A
6. B
7. C
8. D
9. A

Hematology

1. A
2. A
3. A
4. A
5. A

Nutrition

1. D
2. E
3. A
4. A