

**MINISTRY OF HEALTH OF UKRAINE**  
**ODESSA NATIONAL MEDICAL UNIVERSITY**  
**Department of Pediatrics No. 1**

**Test tasks in the discipline "Pediatrics"**  
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DSc, Prof.



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# All correct answers -A

KROK 2007

1. An 8 y.o. child presents with low-grade fever, arthritis, colicky abdominal pain, and a purpuric rash limited to the lower extremities. Laboratory studies reveal a guaiac-positive stool, a urinalysis with red blood cell (RBC) casts and mild proteinuria, and a normal platelet count. The most likely diagnosis is:
- A. Henoch-Schonlein's vasculitis
  - B. Systemic lupus erythematosus (SLE)
  - C. Rocky Mountain spotted fever
  - D. Idiopathic thrombocytopenic purpura
  - E. Poststreptococcal glomerulonephritis
2. A 9 y.o. child with diagnosis "chronic tonsillitis" stands dispensation control. Within 1 year of observation there was one exacerbation of disease. Physical condition is satisfactory. The general state is not infringed. Define group of health:
- A. III (a)
  - B. II-d
  - C. I-st
  - D. III (b)
  - E. III (c)
3. The 10 y.o. boy has complains on headache, weakness, fever 40<sup>0</sup>, vomiting expressed dyspnea, pale skin with flush on right cheek, lag of right hemithorax respiratory movement, dullness on percussion over low lobe of right lung, weakness of vesicular respiration in this zone. The abdomen is painless and soft at palpation. Which disease lead to these symptoms and signs?
- A. Pneumonia croupousa
  - B. Intestinal infection
  - C. Acute appendicitis
  - D. Acute cholecystitis
  - E. Flu
4. The patient with acute respiratory viral infection (3-rd day of disease) has complaints on pain in lumbar region, nausea, dysuria, oliguria. Urinalysis - hematuria (100-200 RBC in eyeshot spot), specific gravity - 1002. The blood creatinin level is 0,18 mmol/L, potassium level - 6,4 mmol/L. Make the diagnosis:
- A. Acute interstitial nephritis
  - B. Acute renal failure
  - C. Acute glomerulonephritis
  - D. Acute cystitis
  - E. Acute renal colic
5. The 7 m.o. infant is suffering from acute pneumonia which was complicated by cardiovascular insufficiency and respiratory failure of II degree. The accompanied diagnosis is malnutrition of II degree. Choose the best variant of therapy:
- A. Ampiox and Amicacin
  - B. Macropen and Penicillin
  - C. Penicillin and Ampiox

- D. Gentamycin and Macropen
- E. Ampiox and Polymixin

6. A 2 y.o. girl has been ill for 3 days. Today she has low grade fever, severe catarrhal presentations, slight maculopapular rash on her buttocks and enlarged occipital lymph nodes. What is your diagnosis?

- A. Rubella
- B. Scarlet fever
- C. Measles
- D. Adenoviral infection
- E. Pseudotuberculosis

7. A 7 y.o. girl has mild form of varicella. Headache, weakness, vertigo, tremor of her limbs, ataxia, then mental confusion appeared on the 5th day of illness. Meningeal signs are negative. Cerebrospinal fluid examination is normal. How can you explain these signs?

- A. Encephalitis
- B. Meningitis
- C. Meningoencephalitis
- D. Myelitis
- E. Neurotoxic syndrome

8. A 7 y.o. girl fell ill abruptly: fever, headache, severe sore throat, vomiting. Minute bright red rash appear in her reddened skin in 3 hours. It is more intensive in axillae and groin. Mucous membrane of oropharynx is hyperemic. Greyish patches is on the tonsils. Submaxillary lymph nodes are enlarged and painful. What is your diagnosis?

- A. Scarlet fever
- B. Measles
- C. Rubella
- D. Pseudotuberculosis
- E. Enteroviral infection

9. The child has complains of the "night" and "hungry" abdominal pains. At fibroscopy in area a bulbus of a duodenum the ulcerative defect of 4 mms diameter is found, the floor is obstructed with a fibrin, (H.p +). Administer the optimum schemes of treatment:

- A. Omeprazole - Trichopolium - Claritromicin
- B. De-nol
- C. Maalox - Ranitidin
- D. Vicalinum - Ranitidin
- E. Trichopolium

10. 6 m.o. infant was born with body's mass 3 kg and length 50 cm. He is given natural feeding. How many times per day the infant should be fed?

- A. 5
- B. 7
- C. 6
- D. 8
- E. 4

11. A 16 y.o. female presents with abdominal pain and purpuric spots on the skin. Laboratory investigations reveals a normal platelet count, with haematuria and proteinuria. The most likely diagnosis:

- A. Schonlein-Henoch purpura

- B. Haemolytic uraemic syndrome
- C. Thrombotic thrombocytopenic purpura
- D. Heavy metal poisoning
- E. Sub acute bacterial endocarditis

12. A 7 y.o. boy is admitted to the hospital for evaluation of vomiting and dehydration. Physical examination is otherwise normal except for minimal hyperpigmentation of the nipples. Serum sodium and potassium concentrations are 120 meq/L and 9 meq/L respectively. The most likely diagnosis is:

- A. Congenital adrenal hyperplasia
- B. Pyloric stenosis
- C. Secondary hypothyroidism
- D. Panhypopituitarism
- E. Hyperaldosteronism

13. A 7 y.o. boy has crampy abdominal pain and a rash on the back of his legs and buttocks as well as on the extensor surfaces of his forearms. Laboratory analysis reveals proteinuria and microhematuria. He is most likely to be affected by:

- A. Anaphylactoid purpura
- B. Systemic lupus erythematosus
- C. Poststreptococcal glomerulonephritis
- D. Polyarteritis nodosa
- E. Dermatomyositis

14. A full-term child survived antenatal and intranatal hypoxia, it was born in asphyxia (2-5 points on Apgar score). After birth the child has progressing excitability, there are also vomiting, nystagmus, spasms, strabismus, spontaneous Moro's and Babinsky's reflexes. What localization of intracranial hemorrhage is the most probable?

- A. Subarachnoid hemorrhage
- B. Small cerebral tissue hemorrhages
- C. Subdural hemorrhage
- D. Periventricular hemorrhages
- E. Hemorrhages into the brain ventricles

15. Heart auscultation of a 16 y.o. boy without clinical symptoms revealed accent of the S II and systolic murmur above the pulmonary artery. Heart sounds are resonant, rhythmic. What is the most probable diagnosis?

- A. Functional murmur
- B. Stenosis of pulmonary artery valve
- C. Insufficiency of pulmonary artery valve
- D. Nonclosure of Botallo's duct
- E. Defection of interatrial septum

16. A 10 y.o. boy with hemophilia has signs of acute respiratory viral infection with fever. What of the mentioned anti-febrile medications are contraindicated to this patient?

- A. Acetylsalicylic acid
- B. Analgin
- C. Pipolphen
- D. Paracetamol
- E. Panadol extra

17. A full-term newborn child has a diagnosis newborn's Rh-factor hemolytic disease. Bilirubin rate is critical. The child's blood group is *B(III)*, his mother's blood group - *A(II)*. The child has indication for hemotransfusion. What donor blood must be

chosen?

- A. Blood group  $B(III)Rh^-$
- B. Blood group  $A(II)Rh^-$
- C. Blood group  $B(III)Rh^+$
- D. Blood group  $A(II)Rh^+$
- E. Blood group  $O(I)Rh^-$

18. A 3 y.o. child with weight deficiency suffers from permanent moist cough. In history there are some pneumonias with obstruction. On examination: distended chest, dullness on percussion over the lower parts of lungs. On auscultation: a great number of different rales. Level of sweat chloride is 80 mmol/L. What is the most probable diagnosis?

- A. Mucoviscidosis (cystic fibrosis)
- B. Bronchial asthma
- C. Recurrent bronchitis
- D. Bronchiectasis
- E. Pulmonary hypoplasia

19. A 14 y.o. girl complains of profuse bloody discharges from genital tracts during 10 days after suppression of menses for 1,5 month. Similar bleedings recur since 12 years on the background of disordered menstrual cycle. On rectal examination: no pathology of the internal genitalia. In blood: Hb- 70 g/L, RBC-  $2,3 \cdot 10^{12}/L$ , Ht- 20. What is the most probable diagnosis?

- A. Juvenile bleeding, posthemorrhagic anemia
- B. Werlhof's disease
- C. Polycyst ovarian syndrome
- D. Hormonoproduktive ovary tumor
- E. Noncomplete spontaneous abortion

20. A 14 y.o. child suffers from vegetovascular dystonia of pubertal period. He has got sympathoadrenal attack. What medicine should be used for attack reduction?

- A. Obsidan
- B. No-shpa
- C. Amisyl
- D. Euphyline
- E. Corglicone

21. A 4 y.o. boy was admitted to the hospital with complaints of dyspnea, rapid fatigability. His anamnesis registers frequent respiratory diseases. On percussion: heart borders are dilatated to the left and upwards. On auscultation: amplification of the SII above pulmonary artery, a harsh systolodyastolic "machine"murmur is auscultated between the II and the III rib to the left of breast bone, this murmur is conducted to all other points including back. AP is 100/20 mm Hg. What is the most probable diagnosis?

- A. Opened arterial duct
- B. Interventricular septal defect
- C. Isolated stenosis of pulmonary arterial orifice
- D. Interatrial septal defect
- E. Valvar aortic stenosis

22. An infant is 2 d.o. It was full-term born with signs of intrauterine infection, that's why it was prescribed antibiotics. Specify, why the gap between antibiotic introductions to the new-born children is longer and dosage is smaller compared to the older children and adults?

- A. The newborns have a lower level of glomerular filtration
- B. The newborns have lower concentration of protein and albumins in blood
- C. The newborns have reduced activity of glucuroniltransferase

- D. The newborns have diminished blood pH
- E. The newborns have bigger hematocrit

23. A 2 m.o. child was delivered in time with weight 3500 g and was on the mixed feeding. Current weight is 4900 g. Evaluate the current weight of the child:

- A. Corresponding to the age
- B. 150 g less than necessary
- C. Hypotrophy of the I grade
- D. Hypotrophy of the II grade
- E. Paratrophy of the I grade

24. A girl 13 y.o. consulted the school doctor on account of moderate bloody discharge from the genital tracts, which appeared 2 days ago. Secondary sexual characters are developed. What is the most probable cause of bloody discharge?

- A. Menarche
- B. Juvenile hemorrhage
- C. Haemophilia
- D. Endometrium cancer
- E. Werlhof's disease

25. A 2 m.o. child with birth weight 5100 g has jaundice, hoarse cry, umbilical hernia, physical development lag. Liver is +2 cm enlarged, spleen is not enlarged. In anamnesis: delayed falling away of umbilical cord rest. In blood: Hb- 120 g/L, erythrocytes -  $4,5 \cdot 10^{12}/L$ , ESR- 3 mm/h. Whole serum bilirubin is 28  $\mu\text{mol}/L$ , indirect - 20  $\mu\text{mol}/L$ , direct - 8  $\mu\text{mol}/L$ . What is the most probable diagnosis?

- A. Congenital hypothyreosis
- B. Congenital hepatitis
- C. Hemolytic anemia
- D. Conjugated jaundice
- E. Cytomegalovirus infection

26. A 13 y.o. girl complains of having temperature rises up to febrile figures for a month, joint ache, periodical skin rash. Examination revealed steady enhancement of ESR, LE-cells. What is the most probable diagnosis?

- A. Systemic lupus erythematosus
- B. Juvenile rheumatoid arthritis
- C. Systemic scleroderma
- D. Acute lymphoblast leukemia
- E. Rheumatism

27. A child is 1 y.o. Within the last months after the beginning of supplemental feeding the child has appetite loss, diarrhea with massive defecation, sometimes vomiting. Objectively: body temperature is normal. Body weight is 7 kg. Evident pallor of skin, leg edema, enlarged abdomen. Coprogram shows a lot of fatty acids and soaps. The child was diagnosed with celiac disease and prescribed gluten-free diet. What should be excluded from the dietary intake in this case?

- A. Cereals - wheat, oats
- B. Milk and dairy produce
- C. Fruit
- D. Animal protein

**E. Digestible carbohydrates**

- 28.** An 8 y.o. boy complains of constant cough along with discharge of greenish sputum, dyspnea during physical activities. At the age of 1 year and 8 months he fell ill for the first time with bilateral pneumonia that had protracted course. Later on there were recurrences of the disease 5-6 times a year, during the remission periods there was constant productive cough. What examination results will be the most important for making a final diagnosis?
- A.** Bronchography
  - B.** Roentgenography of thorax organs
  - C.** Bacterial inoculation of sputum
  - D.** Bronchoscopy
  - E.** Spirography
- 29.** A 10 y.o. child who is at oligoanuretic stage of acute renal insufficiency has got sensations of pricking in the mucous membrane of oral cavity and tongue, extremities numbness, reduced reflexes, respiratory disturbance, arrhythmia. What are these symptoms caused by?
- A.** Hyperkalemia
  - B.** Hyponatremia
  - C.** Hyperazotemia
  - D.** Acidosis
  - E.** Alkalosis
- 30.** A 13 y.o. teenager who suffers from hemophilia A was taken to the hospital after a fight at school. His diagnosis is right-sided hemarthrosis of knee joint, retroperitoneal hematoma. What should be primarily prescribed?
- A.** Fresh frozen plasma
  - B.** Aminocaproic acid
  - C.** Washed thrombocytes
  - D.** Placental albumin
  - E.** Dry plasma
- 31.** A 3 m.o. child fell seriously ill, body temperature rose up to  $37,8^{\circ}\text{C}$ , there is semicough. On the 3-rd day the cough grew worse, dyspnea appeared. On percussion: tympanic sound above lungs, on auscultation: a lot of fine moist and wheezing rales during expiration. What is the most probable diagnosis?
- A.** Acute respiratory viral infection, bronchiolitis
  - B.** Acute respiratory viral infection, bronchopneumonia
  - C.** Acute respiratory viral infection, bronchitis
  - D.** Acute respiratory viral infection, bronchitis with asthmatic component
  - E.** Acute respiratory viral infection, focal pneumonia
- 32.** Mother of a newborn child suffers from chronic pyelonephritis. She survived acute respiratory viral infection directly before labour. Delivery was at term, the period before discharge of waters was prolonged. On the 2-nd day the child got erythematous rash, later on - vesicles about 1 cm large with seropurulent content. Nikolsky's symptom is positive. Dissection of vesicles results in erosions. The child is inert, body temperature is subfebrile. What is the most probable diagnosis?
- A.** Impetigo neonatorum
  - B.** Vesicular pustulosis
  - C.** Pseudofurunculosis

- D. Sepsis**  
**E. Ritter's dermatitis**
- 33.** A child was born with body weight 3250 g and body length 52 cm. At the age of 1,5 month the actual weight is sufficient (4350 g), psychophysical development corresponds with the age. The child is breast-fed, occasionally there are regurgitations. What is the cause of regurgitations?
- A. Aerophagia**  
**B. Pylorostenosis**  
**C. Pylorospasm**  
**D. Acute gastroenteritis**  
**E. Esophageal atresia**
- 34.** A 10 y.o. child has average indices of body length and her chest circumference exceeds average indices, body weight index is heightened due to lipopexia. Functional characteristics of physical development are below average. Physical development of this child can be estimated as:
- A. Disharmonic**  
**B. Average**  
**C. Below average**  
**D. Harmonic**  
**E. Deeply disharmonic**
- 35.** A 14 y.o. girl got a bad mark at the lesson of math as well as teacher's reprimand that made her cry for a long time. At the end of the lesson she suddenly lost consciousness and fell down. Objectively: skin is of pale pink colour, Ps- 100 bpm, satisfactory, AP- 110/70 mm Hg. Eyelids are closed and don't give away to the tries of their opening. There are no evident injuries. What is the provisional diagnosis?
- A. Hysteric syncope**  
**B. Epilepsy**  
**C. Vagotonic syncope**  
**D. Long QT syndrome**  
**E. Sympathicotonic collapse**
- 36.** A newborn child has purulent discharges from the umbilical wound, skin around the umbilicus is swollen. Objectively: the child's skin is pale, of yellow-greyish colour, generalized hemorrhagic rash. Body temperature is of hectic nature. What is the most probable diagnosis?
- A. Sepsis**  
**B. Hemorrhagic disease of newborn**  
**C. Hemolytic disease of newborn**  
**D. Thrombocytopenia**  
**E. Omphalitis**
- 37.** A 7 y.o. boy was admitted to the hospital. He complains of unpleasant sensations in the heart region, pain in the epigastrium, dizziness, vomiting. Objectively: evident paleness of skin, dyspnea, jugular pulse. Heart borders are within the normal range. Heart sounds are clear, HR- 170/min, small pulse. AP- 90/50 mm Hg. EKG showed: paroxysm of ventricular tachycardia. The paroxysm can be suppressed by:
- A. Lidocaine**  
**B. Morphine**  
**C. Enalapril**  
**D. Nifedipine**  
**E. Strophanthine**





**38.** A child is 2 m.o. Inguinofemoral folds contain acutely inflamed foci with distinct borders in form of spots that are slightly above the surrounding areas due to skin edema. The rash has appeared during the week. Vesiculation and wetting are absent. What is the most probable diagnosis?

- A.** Napkin-area dermatitis
- B.** Infantile eczema
- D.** Dermatomycosis
- E.** Psoriasis
- F.** Complicated course of scabies

**39.** A 15 y.o. patient has developmental lag, periodical skin yellowing. Objectively: spleen is 16x12x10 cm large,olecistolithiasis, skin ulcer on the lower third of his left crus. Blood count: erythrocytes -  $3,0 \cdot 10^{12}/L$ , Hb- 90 g/L, C.I.- 1,0, microspherocytosis, reticulocytosis. Blood bilirubin - 56 mmole/L, indirect bilirubin - 38 mmole/L. Choose the way of treatment:

- A.** Splenectomy
- B.** Spleen transplantation
- C.** Portocaval anastomosis
- D.** Omentosplenopexy
- E.** Omentohepatopexy

KROK 2008

1. An 8 year old child has low-grade fever, arthritis, colicky abdominal pain and a purpuric rash localized on the lower extremities. Laboratory studies reveal a guaiac-positive stool, urinalysis with red blood cell (RBC) casts and mild proteinuria, and a normal platelet count. The most likely diagnosis is:
- A. Henoch-Schonlein's vasculitis
  - B. Systemic lupus erythematosus (SLE)
  - C. Rocky Mountain spotted fever
  - D. Idiopathic thrombocytopenic purpura
  - E. Poststreptococcal glomerulonephritis
2. A 9 year old girl with a history of intermittent wheezing for several years is brought to the pediatrician. The child has been taking no medications for some time. Physical examination reveals agitation and perioral cyanosis. Intercostal and suprasternal retractions are present. The breath sounds are quiet, and wheezing is audible bilaterally. The child is admitted to the hospital. Appropriate interventions might include all of the following **EXCEPT**:
- A. Prescribe nebulized cromolyn sodium
  - B. Prescribe intravenous aminophylline
  - C. Administer supplemental oxygen
  - D. Prescribe intravenous corticosteroids
  - E. Prescribe nebulized metaproterenol
3. Routine examination of an otherwise healthy child with a history of bronchial asthma reveals AP of 140/90 mm Hg. The most likely cause of the hypertension is:
- A. Renal disease
  - B. Theophylline toxicity
  - C. Chronic lung disease
  - D. Coarctation of the aorta
  - E. Obesity
4. A child is 6 years old. Within one year of observation he had URI that lasted 8 days. Physical state is satisfactory. Specify his health group:
- A. I
  - B. II
  - C. III (a)
  - D. III (b)
  - E. III (c)
5. If a child has adherent fingers on his right hand, then what will be your diagnosis?
- A. Syndactyly
  - B. Polydactyly
  - C. Macrodactyly
  - D. Ectrodactyly
  - E. Ectromelia
6. A 16 year old patient with complaints of frequent pain in the abdomen was diagnosed with melanoma, examination revealed also pigmentation of the mucosa and skin, polyp in the stomach and large intestine. It is known that the patient's mother has an analogous pigmentation and has been often treated for anemia. What disease is suspected?
- A. Peutz-Eggers's polyposis
  - B. Chron's disease

- C. Tuberculosis of the intestine
- D. Adolescent polyposis
- E. Hirschprung's disease

7. A 3 month old infant suffering from acute segmental pneumonia has dyspnea (respiration rate - 80 per minute), paradoxical breathing, tachycardia, total cyanosis. Respiration / pulse ratio is 1:2. The heart dullness under normal size. Such signs characterise:

- B. Respiratory failure of III degree
- C. Respiratory failure of I degree
- D. Respiratory failure of II degree
- E. Myocarditis
- F. Congenital heart malformation

8. A 3 year old child has been suffering from fever, cough, coryza, conjunctivitis for 4 days. He has been taking sulfadimethoxine. Today it has fever up to 39°C and maculopapular rash on its face. Except of rash the child's skin has no changes. What is your diagnosis?

- A. Measles
- B. Allergic rash
- C. Rubella
- D. Scarlet fever
- E. Pseudotuberculosis

9. A 2 year old girl has been ill for 3 days. Today she has low grade fever, severe catarrhal presentations, slight maculopapular rash on her buttocks and enlarged occipital lymph nodes. What is your diagnosis?

- A. Rubella
- B. Scarlet fever
- C. Measles
- D. Adenoviral infection
- E. Pseudotuberculosis

10. A 3 year old boy fell ill abruptly: fever up to 39°C, weakness, vomiting. Haemorrhagic rash of various size appeared on his lower limbs in 5 hours. Meningococemia with infective - toxic shock of the 1 degree was diagnosed. What medications should be administered?

- A. Chloramphenicol succinate and prednisone
- B. Penicillin and prednisone
- C. Penicillin and immunoglobulin
- D. Chloramphenicol succinate and interferon
- E. Ampicillin and immunoglobulin

11. A 7 year old girl has mild form of varicella. Headache, weakness, vertigo, tremor of her limbs, ataxia, then mental confusion appeared on the 5th day of illness. Meningeal signs are negative. Cerebrospinal fluid examination is normal. How can you explain these signs?

- A. Encephalitis
- B. Meningitis
- C. Meningoencephalitis
- D. Myelitis
- E. Neurotoxic syndrome

12. A 14 year old patient complains of chest pain, temperature up to 38, 5°C, breathlessness. He had acute tonsillitis

2 weeks ago. He is in grave condition. The skin is pale. Heart borders are dilated, heart sounds are quiet. Above total heart area you can hear pericardium friction sound. Electrocardiogram: the descent of QRS voltage, the inversion T. The liver is enlarged by 3 cm. ESR - 4 mm/h, ASL

- 0 - 1260, C-reactive protein ++++. Your diagnosis:

- A. Rheumatic pancarditis
- B. Rheumatic pericarditis
- C. Rheumatic myocarditis
- D. Rheumatic endocarditis
- E. Septic endocarditis

13. A woman born a child. It was her fifth pregnancy but the first delivery. Mother's blood group is  $A(II)Rh^-$ , newborn's -  $A(II)Rh^+$ . The level of indirect bilirubin in umbilical blood was 58 micromole/l, hemoglobin - 140 g/l, RBC -  $3,8 \cdot 10^{12}/l$ . In 2 hours the level of indirect bilirubin turned 82 micromole/l. The hemolytic disease of newborn (icteric-anemic type, Rh-incompatibility) was diagnosed. Choose the therapeutic tactics:

- A. Replacement blood transfusion (conservative therapy)
- B. Conservative therapy
- C. Blood transfusion (conservative therapy)
- D. Symptomatic therapy
- E. Antibiotics

14. A mother consulted a pediatrician about her son. Her son was born with body mass of 3 kg and length of 48 cm. He's 1 year old now. What is the required normal mass?

- A. 10,5 kg
- B. 9,0 kg
- C. 11,0 kg
- D. 12,0 kg
- E. 15,0 kg

15. A 2 month old healthy infant with good appetite is given artificial feeding since he turned 1 month old. When is it recommended to start the corrective feeding (fruit juice)?

- A. 4,0 months
- B. 1,5 months
- C. 2,0 months
- D. 3,0 months
- E. 1,0 months

16. A nine year old child is at a hospital with acute glomerulonephritis. Clinical and laboratory examinations show acute condition. What nutrients must not be limited during the acute period of glomerulonephritis?

- A. Carbohydrates
- B. Salt
- C. Liquid
- D. Proteins
- E. Fats

17. Examination of a 3-month-old child revealed scrotum growth on the right. This formation has elastic consistency, its size decreases during sleep and increases when the child is crying. What examination will be helpful for making a correct diagnosis?

- A. Palpation of the thickened cord crossing the pubic tubercle (sign of the silk glove)
- B. Diaphanoscopy
- C. Palpation of the external inguinal ring
- D. Puncture of the scrotum
- E. Examination of the formation in Trendelenburg's position

18. A rounded well-defined shadow was found in the costo-vertebral angle on the chest roentgenogram of an otherwise healthy 9 year old girl. Make a preliminary diagnosis:

- A. Ganglioneuroma
- B. Sympatoblastoma
- C. Ganglioneuroblastoma
- D. Sympatogonioma
- E. Sarcoma of the vertebra

19. An 18 year old patient was admitted to a hospital with complaints of headache, weakness, high temperature, sore throat. Objectively: enlargement of all groups of lymph nodes was revealed. The liver is enlarged by 3 cm, spleen - by 1 cm. In blood: leukocytosis, atypical lymphocytes - 15%. What is the most probable diagnosis?

- A. Infectious mononucleosis
- B. Acute lymphoid leukosis
- C. Diphtheria
- D. Angina
- E. Adenoviral infection

20. A 6 week old child is admitted because of tachypnea. Birth had been uneventful, although conjunctivitis developed on the third day of life and lasted for about 2 weeks. Physical examination reveals tachypnea, bilateral inspiratory crackles and single expiratory wheezing. Bilateral pneumonia is evident on chest X-ray. The child is afebrile and has no history of fever. White blood cell count is  $15 \cdot 10^9/l$ , with 28% of eosinophils. The most likely cause of this child's symptoms is:

- A. *Clamidia trachomatis*
- B. *Pneumocystis carinii*
- C. *Mycoplasma pneumoniae*
- D. *Visceral larva migrans*
- E. *Varicella*

21. A child with tetralogy of Fallot is most likely to exhibit:

- A. Increased pressure in the right ventricle
- B. Increased pulmonary blood flow
- C. Increased pulse pressure
- D. Normal pressure gradient across the pulmonary valve
- E. Normal oxygen tension ( $PaO_2$ ) in the left ventricle

22. A 3 year old child with weight deficiency suffers from permanent moist cough. In history there are some pneumonias with obstruction. On examination: distended chest, dullness on percussion over the lower parts of lungs. On auscultation: a great number of different rales. Level of sweat chloride is 80 millimol/l. What is the most probable diagnosis?

- A. Mucoviscidosis (cystic fibrosis)
- B. Bronchial asthma

- C. Recurrent bronchitis
- D. Bronchiectasis
- E. Pulmonary hypoplasia

23. A 14 year old girl complains of profuse bloody discharges from genital tracts during 10 days after suppression of menses for 1,5 month. Similiar bleedings recur since 12 years on the background of disordered menstrual cycle. On rectal examination: no pathology of the internal genitalia. In blood: Hb - 70 g/l, RBC-  $2,3 \cdot 10^{12}/l$ , Ht - 20. What is the most probable diagnosis?
- A. Juvenile bleeding, posthemorrhagic anemia
  - B. Werlhof's disease
  - C. Polycyst ovarian syndrome
  - D. Hormonoproductive ovary tumor  
Incomplete spontaneous abortion
24. A full-term infant is 3 days old. On the different parts of skin there are erythemas, erosive spots, cracks, areas of epidermis peeling. The infant has scalded skin syndrome. Nikolsky's symptom is positive. General condition of the infant is grave. Anxiety, hyperesthesia, febrile temperature are evident. What is the most probable diagnosis?
- A. Exfoliative dermatitis
  - B. Phlegmon of newborn
  - C. Finger's pseudofurunculosis
  - D. Impetigo neonatorum
  - E. Mycotic erythema
25. Examination of a 4 month old child revealed some lemon-yellow squamae with fatty crusts on the scalp. What is the most probable diagnosis?
- A. Gneiss
  - B. Milk crust
  - C. Strophulus
  - D. Pseudofurunculosis
  - E. Infantile eczema
26. A 14 year old child suffers from vegetovascular dystonia of pubertal period. He has got sympathoadrenal attack. What medicine should be used for attack reduction?
- A. Obsidan
  - B. No-shpa
  - C. Amysyl
  - D. Aminophylline
  - E. Corglicone
27. A 12 year old girl complains about abrupt weakness, nausea, dizziness, vision impairment. The day before she ate home-made stockfish, beef. Examination revealed skin pallor, a scratch on the left knee, dryness of mucous membranes of oral pharynx, bilateral ptosis, mydriatic pupils. The girl is unable to read a simple text (mist over the eyes). What therapy would be the most adequate in this case?
- A. Parenteral introduction of polyvalent antitoxin serum
  - B. Parenteral disintoxication
  - C. Parenteral introduction of antibiotics
  - D. Gastric lavage
  - E. Parenteral introduction of antitetanus serum

28. A 2 month old full-term child was born with weight 3500 g and was on the mixed feeding. Current weight is 4900 g. Evaluate the current weight of the child:

- A. Corresponding to the age
- B. 150 g less than necessary
- C. Hypotrophy of the I grade
- D. Hypotrophy of the II grade
- E. Paratrophy of the I grade

29. A 5 month old boy was born prematurely, he didn't suffer from any disease at the infant age and later on. Examination at an outpatient's hospital revealed paleness of skin, sleepiness. Blood count: Hb - 95 g/l, erythrocytes -  $3,5 \cdot 10^{12}/l$ , reticulocytes - 9%, colour index - 0,7, osmotic stability of erythrocytes - 0,44-0,33%, serum iron - 4,9 micromole/l. What is the most probable cause of anemia?

- F. Iron deficit
- G. Hemogenesis immaturity
- H. Infectious process
- I. Erythrocyte hemolysis
- J. B<sub>12</sub> deficit

30. A 13 year old girl consulted the school doctor on account of moderate bloody discharge from the genital tracts, which appeared 2 days ago. Secondary sexual characters are developed. What is the most probable cause of bloody discharge?

- A. Menarche
- B. Juvenile hemorrhage
- C. Haemophilia
- D. Endometrium cancer
- E. Werlhof's disease

31. An 8 year old girl complains about joint pain, temperature rise up to 38°C, dyspnea. Objectively: the left cardiac border is deviated by 2,5 cm to the left, tachycardia, systolic murmur on the apex and in the V point are present. Blood count: leukocytes -  $20,0 \cdot 10^9/l$ , ESR - 18 mm/h. What sign gives the most substantial proof for rheumatism diagnosis?

- A. Carditis
- B. Arthralgia
- C. Leukocytosis
- D. Fever
- E. Accelerated ESR

32. A 3 year old child fell acutely ill, body temperature rose up to 39,5°C, the child became inert, there appeared recurrent vomiting, headache. Examination revealed positive meningeal symptoms, after this lumbar puncture was performed. Spinal fluid is turbid, runs out under pressure, protein concentration is 1,8 g/l; Pandy reaction is +++, sugar concentration is 2,2 millimole/l, chloride concentration - 123 millimole/l, cytosis is  $2,35 \cdot 10^9$  (80% of neutrophils, 20% of lymphocytes). What is the most probable diagnosis?

- A. Purulent meningitis
- B. Serous viral meningitis
- C. Serous tuberculous meningitis
- D. Subarachnoid haemorrhage



## E. Brain tumour

33. A 10 year old girl complains about abdominal pain that is arising and getting worse after eating rough or spicy food. She complains also about sour eructation, heartburn, frequent constipations, headache, irritability. She has been suffering from this for 12 months. Objectively: the girl's diet is adequate. Tongue is moist with white deposit at the root. Abdomen is soft, painful in its epigastric part. What study method will help to make a diagnosis?

- A. Esophagogastroduodenoscopy
- B. Intra-gastral pH-metry
- C. Fractional examination of gastric juice
- D. Contrast roentgenoscopy
- E. Biochemical blood analysis

34. A 9 year old boy has been suffering from diabetes mellitus for a year. He gets insulin injections (Humulin R, NPH), the dose makes up 0,4 units per 1 kg of body weight a day. Insulin is introduced subcutaneously (into the shoulder) by means of a syringe. What measures should be taken in order to prevent lipodystrophy?

- A. To change point of introduction
- B. To limit fats in the boy's diet
- C. To reduce insulin dose
- D. To apply periodically other types of insulin
- E. To administer antioxidants

35. A child was born with body weight 3250 g and body length 52 cm. At the age of 1,5 month the actual weight is sufficient (4350 g), psychophysical development corresponds with the age. The child is breast-fed, occasionally there are regurgitations. What is the cause of regurgitations?

- A. Aerophagia
- B. Pylorostenosis
- C. Pylorospasm
- D. Acute gastroenteritis
- E. Esophageal atresia

36. A child is 1 day old. During delivery there had been problems with extraction of shoulders. Body weight is 4300,0. Right arm hangs down along the body, hand is pronated, movement in the arm is absent. "Scarf" symptom is positive. What is the most probable diagnosis?

- A. Total right-sided obstetric paralysis
- B. Proximal right-sided obstetric paralysis
- C. Distal right-sided obstetric paralysis
- D. Hemiparesis
- E. Tetraparesis

37. 15 minutes after the second vaccination with diphtheria and tetanus toxoids and pertussis vaccine a 4 month old boy manifested symptoms of Quincke's edema. What medication should be applied for emergency aid?

- A. Prednisolone
- B. Heparin
- C. Adrenalin
- D. Furosemide
- E. Seduxen

38. A 3 month old child has occiput alopecia, anxious sleep, excessive sweating. What disease might be suspected?

- A. Rachitis
- B. Spasmophilia
- C. Anemia
- D. Phosphate diabetes
- E. Chondrodystrophy

39. A 7 year old boy has periods of loss of attention that last 10-15 seconds and occur several times a day. During these periods he stands still in one position, doesn't answer the questions or react when he is called by his name. Neurological examination revealed no changes. What diagnostic method should be applied to specify his diagnosis?

- A. Electroencephalography
- B. Skull roentgenogram
- C. Computer tomogram
- D. Echoencephalography
- E. Examination of evoked potentials

40. 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. AP is 150/90 mm Hg, 90/60 on 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

41. Preventive examination of an 11 year old boy helped to determine his habitus type. It was established that the child's shoulders were deviated and brought forward, with forward flexion of head, the thorax was flattened, abdomen was convex. The child's backbone had signs of deepened cervical and lumbar curvatures. What habitus is it?

- A. Kyphosis
- B. Lordosis
- C. Round-shouldered
- D. Corrected
- E. Normal

42. A 2 year old child has been ill with acute acute respiratory viral infection of upper thrice a year - in February, in April and in December. How should these occurrences be recorded?

- A. It is necessary to fill in 3 statistic talons signed (+)
- B. It is necessary to fill in 3 statistic talons signed (-)
- C. It is necessary to fill in 1 statistic talon signed (+)
- D. It is necessary to fill in 1 statistic talon signed (+) and 2 statistic talons signed (-)
- E. It is necessary to fill in 1 statistic talon signed (-)

43. A 4 month old child was admitted to a surgical department 8 hours after the first attack of anxiety. The attacks happen every 10 minutes and last for 2- 3 minutes, there was also one-time vomiting. Objectively: the child's condition is grave. Abdomen is soft, palpation reveals a tumour-like formation in the right iliac area. After rectal examination the doctor's finger was stained with blood. What is the most probable diagnosis?

- A. Ileocecal invagination
- B. Gastrointestinal haemorrhage
- C. Wilm's tumour
- D. Helminthic invasion
- E. Pylorostenosis

44. During preventive examination a 16 year old patient presented no problems. Objectively: the patient has signs of malnutrition, he is asthenic, AP is 110/70 mm Hg, Ps is 80 bpm, cardiac border is normal, auscultation above the cardiac apex reveals three sounds, cardiac murmur is absent. ECG shows no pathological changes, phonocardiogram shows that the third sound comes 0,15 s after the second one above the apex. How are these changes called?

- A. III physiological sound
- B. Fout-ta-ta-rou (reduplication of the 2nd sound)
- C. Protodiastolic gallop rhythm
- D. Atrial gallop rhythm
- E. IV physiological sound

#### KROK 2009

1. A 10 year old boy complains about pain in his left eye and strong photophobia after he had injured his left eye with a pencil at school. Left eye examination: blepharospasm, ciliary and conjunctival congestion, cornea is transparent, other

parts of eyeball have no changes. Visus 0,9. Right eye is healthy, Visus 1,0. What additional method would you choose first of all?

- A.** Staining test with 1% fluorescein
  - B.** X-ray examination of orbit
  - C.** Tonometria
  - D.** Gonioscopia
  - E.** Cornea sensation-test
2. A 3 month old infant suffering from acute segmental pneumonia has dyspnea (respiration rate - 80 per minute), paradoxical breathing, tachycardia, total cyanosis. Respiration and pulse - ratio is 1:2. The heart dullness under normal size. Such signs characterise:
- A.** Respiratory failure of III degree
  - B.** Respiratory failure of I degree
  - C.** Respiratory failure of II degree
  - D.** Myocarditis
  - E.** Congenital heart malformation
3. A 3 year old child has been suffering from fever, cough, coryza, conjunctivitis for 4 days. He has been taking sulfadimethoxine. Today it has fever up to  $39^{\circ}\text{C}$  and maculopapular rash on its face. Except of rash the child's skin has no changes. What is your diagnosis?
- A.** Measles
  - B.** Allergic rash
  - C.** Rubella
  - D.** Scarlet fever
  - E.** Pseudotuberculosis
4. A 2 year old girl has been ill for 3 days. Today she has low grade fever, severe catarrhal presentations, slight maculopapular rash on her buttocks and enlarged occipital lymph nodes. What is your diagnosis?
- A.** Rubella
  - B.** Scarlet fever
  - C.** Measles
  - D.** Adenoviral infection
  - E.** Pseudotuberculosis
5. A 3 year old boy fell ill abruptly: fever up to  $39^{\circ}\text{C}$ , weakness, vomiting. Haemorrhagic rash of various size appeared on his lower limbs within 5 hours. Meningococemia with infective - toxic shock of the 1 degree was diagnosed. What medications should be administered?
- A.** Chloramphenicol succinate and prednisone
  - B.** Penicillin and prednisone
  - C.** Penicillin and immunoglobulin
  - D.** Chloramphenicol succinate and interferon
  - E.** Ampicillin and immunoglobulin
6. A woman delivered a child. It was her fifth pregnancy but the first delivery. Mother's blood group is  $A(II)Rh^{-}$ , newborn's -  $A(II)Rh^{+}$ . The level of indirect bilirubin in umbilical blood was 58 micromole/l, haemoglobin - 140 g/l, RBC -  $3,8 \cdot 10^{12}/l$ . In 2 hours the level of indirect bilirubin turned 82 micromole/l. The hemolytic disease of newborn (icteric-anemic type, Rh-incompatibility) was diagnosed. Choose the therapeutic tactics:

- A. Replacement blood transfusion (conservative therapy)
  - B. Conservative therapy
  - C. Blood transfusion (conservative therapy)
  - D. Symptomatic therapy
  - E. Antibiotics
7. Infant is 6,5 months now and is given natural feeding since birth. Body mass was 3,5 kg, with length 52 cm at birth. How many times per day the supplement (up feeding) should be given?
- A. 2
  - B. 3
  - C. 1
  - D. 0
  - E. 4
8. A 12 year old child has the ulcer di- sease of stomach. What is the etiology of this disease?
- A. Intestinal bacillus
  - B. Helicobacter pylory
  - C. Salmonella
  - D. Lambliosis
  - E. Influenza
9. A nine year old child is at a hospi- tal with acute glomerulonephritis. Cli- nical and laboratory examinations show acute condition. What nutrients must not be limited during the acute period of glomerulonephritis?
- A. Carbohydrates
  - B. Salt
  - C. Liquid
  - D. Proteins
  - E. Fats
10. Examination of a 3-month-old child revealed scrotum growth on the right. This formation has elastic consistency, its size decreases during sleep and increases when the child is crying. What examinati- on will be helpful for making a correct diagnosis?
- A. Palpation of the thickened cord crossi- ng the pubical tubercule (sign of the silk glove)
  - B. Diaphanoscopy
  - C. Palpation of the external inguinal ring
  - D. Punction of the scrotum
  - E. Examination of the formation in Trendelenburg's position
11. An 18 year old patient was admitted to a hospital with complaints of headache, weakness, high temperature, sore throat. Objectively: enlargement of all groups of lymph nodes was revealed. The liver is enlarged by 3 cm, spleen - by 1 cm. In blood: leukocytosis, atypical lymphocytes - 15%. What is the most probable diagnosis?
- A. Infectious mononucleosis
  - B. Acute lymphoid leukosis
  - C. Diphtheria
  - D. Angina
  - E. Adenoviral infection

12. A 4 year old girl was playing with her toys and suddenly she got an attack of cough, dyspnea. Objectively: respiratory rate - 45/min, heart rate - 130/min. Percussion revealed dullness of percutory sound on the right in the lower parts. Auscultation revealed diminished breath sounds with bronchial resonance on the right. X-ray picture showed shadowing of the lower part of lungs on the right. Blood analysis revealed no signs of inflammation. The child was diagnosed with foreign body in the right bronchus. What complication caused such clinical presentations?
- Atelectasis
  - Emphysema
  - Pneumothorax
  - Bronchitis
  - Pneumonia
13. In the 43rd week of gestation a long, thin infant was delivered. He is apneic, limp, pale, and covered with "pea soup" amniotic fluid. The first step in the resuscitation of this infant at delivery should be:
- Suction of the trachea under direct vision
  - Artificial ventilation with bag and mask
  - Artificial ventilation with endotracheal tube
  - Administration of 100% oxygen by mask
  - Catheterization of the umbilical vein
14. Examination of a 9 month old girl revealed skin pallor, cyanosis during excitement. Percussion revealed transverse dilatation of cardiac borders. Auscultation revealed continuous systolic murmur on the left from the breastbone in the 3-4 intercostal space. This murmur is conducted above the whole cardiac region to the back. What congenital cardiac pathology can be suspected?
- Defect of interventricular septum
  - Defect of interatrial septum
  - Coarctation of aorta
  - Fallot's tetrad
  - Pulmonary artery stenosis
15. An 8 year old boy suffering from haemophilia was undergoing transfusion of packed red cells. Suddenly he got pain behind the breastbone and in the lumbar area, dyspnea, cold sweat. Objectively: pale skin, heart rate - 100/min, AP- 60/40 Hg; oliguria, brown urine. For treatment of this complication the following drug should be administered:
- Prednisolone
  - Lasix
  - Adrenaline
  - Aminophylline
  - Analgin
16. After objective clinical examination a 12 year old child was diagnosed with mitral valve prolapse. What complementary instrumental method of examination should be applied for the diagnosis confirmation?
- Echocardiography
  - Roentgenography of chest
  - Phonocardiography
  - ECG
  - Velocimetry

17. A 10 month old boy has been ill for 5 days after consumption of unboiled milk. Body temperature is  $38 - 39^{\circ}\text{C}$ , there is vomiting, liquid stool. The child is pale and inert. His tongue is covered with white deposition. Heart sounds are muffled. Abdomen is swollen, there is borborygmus in the region of umbilicus, liver is enlarged by 3 cm. Stool is liquid, dark-green, with admixtures of mucus, 5 times a day. What is the most probable diagnosis?
- A. Salmonellosis
  - B. Staphylococcal enteric infection
  - C. Escherichiosis
  - D. Acute shigellosis
  - E. Rotaviral infection
18. A 3 year old child with weight deficiency suffers from permanent moist cough. In history there are some pneumonias with obstruction. On examination: distended chest, dullness on percussion over the lower parts of lungs. On auscultation: a great number of different rales. Level of sweat chloride is 80 millimol/l. What is the most probable diagnosis?
- A. Mucoviscidosis (cystic fibrosis)
  - B. Bronchial asthma
  - C. Recurrent bronchitis
  - D. Bronchiectasis
  - E. Pulmonary hypoplasia
19. A 14 year old child suffers from vegetovascular dystonia of pubertal period. He has got sympathoadrenal attack. What medicine should be used for attack reduction?
- A. Obsidan
  - B. No-shpa
  - C. Amysyl
  - D. Aminophylline
  - E. Corglicone
20. A 4 month old child fell seriously ill: body temperature rose up to  $38,5^{\circ}\text{C}$ , the child became inert and had a single vomiting. 10 hours later there appeared rash over the buttocks and lower limbs in form of petechiae, spots and papules. Some haemorrhagic elements have necrosis in the centre. What is the most probable disease?
- A. Meningococemia
  - B. Rubella
  - C. Influenza
  - D. Haemorrhagic vasculitis
  - E. Scarlet fever
21. A 13 year old girl was admitted to the cardiological department because of pain in the muscles and joints. Examination of her face revealed an edematous erythema in form of butterfly in the region of nose bridge and cheeks. What is the most probable diagnosis?
- A. Systemic lupus erythematosus
  - B. Rheumatism
  - C. Dermatomyositis
  - D. Rheumatoid arthritis

**E. Periarteritis nodosa**

22. A 15 year old girl suddenly got arthralgia, headache, nausea, vomiting; pain and muscle tension in the lumbar area; body temperature rose up to 38 – 39°C. Pasternatsky's symptom was distinctly positive on the right. In the urine: bacteriuria, pyuria. What is the most probable diagnosis?
- A. Acute pyelonephritis**
  - B. Renal colic**
  - C. Acute glomerulonephritis**
  - D. Pararenal abscess**
  - E. Cystitis**
23. A boy is 1 year old. Previously he had purulent otitis. After that he started complaining about pain in the upper third of his left thigh, body temperature rose up to 39°C. Objectively: the thigh is swollen in its upper third, inguinal fold is smoothed. Extremity is in half-bent position. Active and passive movements are impossible because of acute pain. What is the most probable diagnosis?
- A. Acute haematogenic osteomyelitis**
  - B. Acute coxitis**
  - C. Intermuscular phlegmon**
  - D. Osteosarcoma**
  - E. Brodie's abscess**
24. A 2 month old full-term child was born with weight 3500 g and was on the mixed feeding. Current weight is 4900 g. Evaluate the current weight of the child:
- A. Corresponding to the age**
  - B. 150 g less than necessary**
  - C. Hypotrophy of the I grade**
  - D. Hypotrophy of the II grade**
  - E. Paratrophy of the I grade**
25. A 5 month old boy was born prematurely, he didn't suffer from any disease at the infant age and later on. Examination at an outpatient's hospital revealed paleness of skin, sleepiness. Blood count: Hb - 95 g/l, erythrocytes -  $3,5 \cdot 10^{12}/l$ , reticulocytes -  $9^0/_{00}$ , colour index - 0,7, osmotic stability of erythrocytes - 0,44-0,33%, serum iron - 4,9 micromole/l. What is the most probable cause of anemia?
- A. Iron deficit**
  - B. Hemogenesis immaturity**
  - C. Infectious process**
  - D. Erythrocyte hemolysis**
  - E. B<sub>12</sub> deficit**
26. A 10 year old boy suffers from chronic viral hepatitis type B with maximal activity. What laboratory test can give the most precise characteristic of cytolysis degree?
- A. Transaminase test**



- B.** Weltman's coagulation test
- C.** Takata-Ara test
- D.** Prothrombin test
- E.** Test for whole protein

27. Examination of a 12 year old child revealed diffuse thyroid enlargement of the II degree. Heart auscultation revealed dullness of heart sounds, heart rate was 64/min. The child has frequent constipations, anemia. Concentration of thyreoglobulin antibodies is increased. What disease might have caused such symptoms?

- A.** Autoimmune thyroiditis
- B.** Diffuse toxic goiter
- C.** Thyroid carcinoma
- D.** Thyroid hyperplasia
- E.** Endemic goiter

28. A 13 year old patient is suffering from an acute disease with the following symptoms: thirst, polyuria, weakness. Objectively: his general condition is satisfactory, there is no smell of acetone. Glucose concentration in blood on an empty stomach is 32 micromole/l, in urine - 6%, acetone +. What treatment should be administered?

- A.** Short-acting insulin
- B.** Long-acting insulin
- C.** Biguanides
- D.** Sulfonylurea
- E.** Diet

29. It was noticed that a 7 year old pupil had been inattentive several times during the lessons. The teacher also noticed that the child had been smacking his lips and had vacant look. There were no falls and convulsions. During such short periods of absence the child didn't react to calling his name. His mother noticed such phenomena before but didn't pay much attention to them thinking that the child was deep in thought. What type of epileptic attack (according to the standard classification) is it?

- A.** Absentia
- B.** Generalized tonic-clonic epilepsy
- C.** Simple partial epilepsy
- D.** Complex partial epilepsy
- E.** Jacksonian partial epilepsy

30. A child was born with body weight 3250 g and body length 52 cm. At the age of 1,5 month the actual weight is sufficient (4350 g), psychophysical development corresponds with the age. The child is breast-fed, occasionally there are regurgitations. What is the cause of regurgitations?

- A.** Aerophagia
- B.** Pylorostenosis
- C.** Pylorospasm
- D.** Acute gastroenteritis
- E.** Esophageal atresia

31. A child is 1 day old. During delivery there had been problems with extraction

of shoulders. Body weight is 4300,0. Right arm hangs down along the body, hand is pronated, movement in the arm is absent. "Scarf" symptom is positive. What is the most probable diagnosis?

- A. Total right-sided obstetric paralysis
- B. Proximal right-sided obstetric paralysis
- C. Distal right-sided obstetric paralysis
- D. Hemiparesis
- E. Tetraparesis

32. A 3 year old boy has petechial eruption. Examination revealed no other pathological changes. Thrombocyte number is  $20 \cdot 10^9/l$ ; haemoglobin and leukocyte concentration is normal. What is the most probable diagnosis?

- A. Immune thrombocytopenic purpura
- B. Schonlein-Henoch disease
- C. Disseminated intravascular coagulopathy
- D. Acute lymphoblastic leukemia
- E. Systemic lupus erythematosus

33. An infant is full-term. Delivery was pathological, with breech presentation. Examination of the infant revealed limited abduction of the right leg to  $50^\circ$ , positive "clicking" symptom on the right, asymmetric inguinal folds. What is the most probable diagnosis?

- A. Inborn dislocation of the right hip
- B. Inborn dislocation of both hips
- C. Varus deformity of both femoral necks
- D. Fracture of both femoral necks
- E. Right hip dysplasia

34. 15 minutes after the second vaccination with diphtheria and tetanus toxoids and pertussis vaccine a 4 month old boy manifested symptoms of Quincke's edema. What medication should be applied for emergency aid?

- A. Prednisolone
- B. Heparin
- C. Adrenalin
- D. Furosemide
- E. Seduxen

35. A 16 year old female patient underwent an operation on account of diffuse toxic goiter of the III-IV degree 12 years ago. Now she has recurrence of thyrotoxicosis. The patient was offered operative intervention, but it is necessary first to localize the functioning gland tissue. What method should be applied for this purpose?

- A. Gland scanning
- B. USI
- C. Puncture aspiration biopsy
- D. Roentgenography of neck
- E. Roentgenography of esophagus

36. On the third day of life an infant's skin got icteric colouring. The child was born with body weight of 3,200 kg, body length of 52 cm. The child is active. There is puerile respiration above the lungs. Respiratory rate is 36/min, heart sounds are rhythmic, heart rate is 130/min. Abdomen is soft, liver comes out from the edge

of costal arch by 2 cm, spleen is not palpable. Feces are in form of meconium. What is the most probable diagnosis?

- A. Physiologic jaundice
- B. Hemolytic disease of newborn
- C. Neonatal sepsis
- D. Minkowsky-Shauffard disease
- E. Biliary tracts atresia

37. A pediatrician talked to a mother of a 7 month old breast-fed boy and found out that the child was fed 7 times a day. How many times should the child of such age be fed?

- A. 5 times
- B. 3 times
- C. 4 times
- D. 6 times
- E. 7 times

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

39. A 9 year old boy had acute respiratory viral infection. After it there appeared polydipsia, polyuria, weakness, nausea. Examination revealed the following symptoms: mental confusion, dry skin, soft eyeballs, Kussmaul's respiration, acetone smell from the mouth, muffled heart sounds, soft and painless abdomen. Blood sugar was 19 millimole/l. What acute condition is it?

- A. Ketoacidotic coma
- B. Hyperosmolar coma
- C. Cerebral coma
- D. Hepatic coma
- E. Acute renal insufficiency

40. On the second day after preventive vaccination a 2 year old boy got abdominal pain without clear localization, body temperature rose up to 38°C.

On the third day the child got red papular haemorrhagic eruption on the extensor surfaces of limbs and around the joints. Knee joints were edematous and slightly painful. Examination of other organs and systems revealed no pathological changes. What is the most probable diagnosis?

- A. Haemorrhagic vesiculitis
- B. Thrombocytopenic purpura
- C. Meningococemia
- D. Urticaria
- E. DIC syndrome

41. On the 6th day of life a child got multiple vesicles filled with seropurulent fluid

in the region of occiput, neck and buttocks. General condition of the child is normal. What disease should be suspected?

- A. Vesiculopustulosis
- B. Impetigo neonatorum
- C. Miliaria
- D. Impetigo
- E. Epidermolysis bullosa

42. A 4 month old child was admitted to a surgical department 8 hours after the first attack of anxiety. The attacks happen every 10 minutes and last for 2-3 minutes, there was also one-time vomiting. Objectively: the child's condition is grave. Abdomen is soft, palpation reveals a tumour-like formation in the right iliac area. After rectal examination the doctor's finger was stained with blood. What is the most probable diagnosis?

- A. Ileocecal invagination
- B. Gastrointestinal haemorrhage
- C. Wilm's tumour
- D. Helminthic invasion
- E. Pylorostenosis

43. Estimation of physical development of a child involved dynamometry and estimation of body weight and length, annual gain in body length, chest circumference, number of permanent teeth, secondary sexual characters, lung vital capacity. Which of the mentioned indices relates to the physiometric ones?

- A. Lung vital capacity, dynamometry
- B. Body length and weight, chest circumference
- C. Secondary sexual characters
- D. Number of permanent teeth
- E. Annual gain in body length

44. During preventive examination a 16 year old patient presented no problems. Objectively: the patient has signs of malnutrition, he is asthenic, AP is 110/70 mm Hg, Ps is 80 bpm, cardiac border is normal, auscultation above the cardiac apex reveals three sounds, cardiac murmur is absent. ECG shows no pathological changes, phonocardiogram shows that the third sound comes 0,15 s after the second one above the apex. How are these changes called?

- A. III physiological sound
- B. Fout-ta-ta-rou (reduplication of the 2nd sound)
- C. Protodiastolic gallop rhythm
- D. Atrial gallop rhythm
- E. IV physiological sound

KROK 2010

1. An 8-year-old boy fell ill acutely: he presents with fever, weakness, headache, abdominal pain, recurrent vomiting, then diarrhea and tenesmus. Stools occur 12 times daily, are scanty, contain a lot of mucus, pus, streaks of blood. His sigmoid gut is tender and hardened. What is your diagnosis?

- A. Dysentery
- B. Salmonellosis
- C. Cholera

- D.** Staphylococcal gastroenteritis  
**E.** Escherichiosis
2. An infant was born with body mass 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 the doctor for a cardiac check up of the 3-year-old son. Where is the left relative heart border located?
- B.** 1 cm left from the left medioclavicular line  
**C.** 1 cm right from the left medioclavicular line  
**D.** Along the left medioclavicular line  
**E.** 1 cm left from the left parasternal line  
**F.** 1 cm right from the left parasternal line
4. A 14-year-old boy has rheumatism. Over the last 2 years he has had 3 rheumatic attacks. What course of rheumatism does the patient have?
- A.** Prolonged  
**B.** Acute  
**C.** Subacute  
**D.** Latent  
**E.** Persistent-recurrent
5. An 18-month-old child was taken to a hospital on the 4-th day of the disease. The disease began acutely with temperature 39, weakness, cough, breathlessness. He is pale, cyanotic, has had febrile temperature for over 3 days. There are crepitative fine bubbling rales on auscultation. Percussion sound is shortened in the right infrascapular region. X-ray picture shows non-homogeneous segment infiltration 8- 10 mm on the right, the intensification of lung pattern. Your diagnosis:
- A.** Segmentary pneumonia  
**B.** Grippe  
**C.** Bronchitis  
**D.** Bronchiolitis  
**E.** Interstitial pneumonia
6. 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 bilirubin - 11 mmol/l, indirect - 112 mmol/l. What are 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
7. A 4-month-old girl with blond hair and blue eyes has "mousy" odor of sweat and urine, delayed psychomotoric development. The most typical laboratory data for this disorder is:
- A.** Positive urine ferric chloride test  
**B.** High level of oxyproline in urine  
**C.** High level of glycosaminoglycans in urine  
**D.** High concentration of chlorides in sweat  
**E.** Low level of thyroid gland hormones in blood
8. A neonate is 5 days old. What vaccination dose of BCG vaccine (in mg) is necessary for vaccination of this child?

- A. 0,05 mg
- B. 0,025 mg
- C. 0,075 mg
- D. 0,1 mg
- E. 0,2 mg

9. Patient, male, 16 years old was behind other children in development since early childhood and still has moderate mental retardation. He is short, has dismorphic body, his face is round, flattened, his eyes are narrow and slanted, and there are epicanthial folds in the corners of his eyes. There is only one transversal flexor line on his palms. What is the probable etiology of this state?

- A. Chromosome abnormality
- B. Gene abnormality
- C. Maternal alcohol abuse during pregnancy
- D. Pathological delivery
- E. Infection in mother during pregnancy

10. A full term infant was born after a normal pregnancy, delivery, however, was complicated by marginal placental detachment. At 12 hours of age the child, although appearing to be in good health, passes a bloody meconium stool. For determining the cause of the bleeding, which of the following diagnostic procedures should be performed first?

- A. Barium enema
- B. An Apt test
- C. Gastric lavage with normal saline
- D. An upper gastrointestinal series
- E. Platelet count, prothrombin time, and partial thromboplastin time

11. A newborn infant has mild cyanosis, diaphoresis, poor peripheral pulse, hepatomegaly and cardiomegaly. Respiratory rate is 60 breaths per minute, and heart rate is 230 beats per minute. The child most likely has congestive heart failure caused by:

- A. Paroxysmal atrial tachycardia
- B. A ventricular septal defect and transposition of the great vessels
- C. Atrial flutter and partial atrioventricular block
- D. Hypoplastic left heart syndrome
- E. A large atrial septal defect and valvular pulmonary stenosis

12. A 6-year-old boy was brought to the emergency room with a 3-hour history of fever up to 39,5°C and sore throat. The child looks alert, anxious and has a mild inspiratory stridor. You should immediately:

- A. Prepare to establish an airway
- B. Obtain an arterial blood gas and start an IV line
- C. Order a chest x-ray and lateral view of the neck
- D. Examine the throat and obtain a culture
- E. Admit the child and place him in a mist tent

13. A 5-year-old boy was progressively getting worse compared to the previous 2 months. A chest x-ray has shown right middle lobe collapse. A tuberculin skin test was strongly positive. What is the most characteristic finding in primary tuberculosis?

- A. Hilar or paratracheal lymph node enlargement
  - B. Atelectasis with obstructive pneumonia
  - C. Cavity formation
  - D. Miliary tuberculosis
  - E. Hematogenous dissemination leading to extrapulmonary tuberculosis
14. A 3-year-old child has been admitted to a hospital because of ostealgia and body temperature rise up to  $39^{\circ}\text{C}$ . Objectively: the patient is in grave condition, unable to stand for ostealgia, there is apparent intoxication, lymph nodes are enlarged up to 1,5 cm. Liver can be palpated 3 cm below the costal margin, spleen - 2 cm below the costal margin. In blood: RBCs -  $3,0 \cdot 10^{12}/\text{l}$ , Hb - 87 g/l, colour index - 0,9, thrombocytes -  $190 \cdot 10^9/\text{l}$ , WBCs -  $3,2 \cdot 10^9/\text{l}$ , eosinophils - 1, stab neutrophils - 1, segmented neutrophils - 0, lymphocytes - 87, monocytes - 2, ESR - 36 mm/h. What examination should be conducted in order to specify the diagnosis?
- A. Sternal puncture
  - B. Ultrasound
  - C. Lymph node puncture
  - D. Lymph node biopsy
  - E. Computer tomography
15. Apgar test done on a newborn girl at 1st and 5th minute after birth gave the result of 7-8 scores. During the delivery there was a short-term difficulty with extraction of shoulder girdle. After birth the child had the proximal extremity dysfunction and the arm couldn't be raised from the side. The shoulder was turned inwards, the elbow was flexed, there was also forearm pronation, obstetric palsy of brachial plexus. What is the clinical diagnosis?
- A. Duchenne-Erb palsy
  - B. Trauma of thoracic spine
  - C. Right hand osteomyelitis
  - D. Intracranial haemorrhage
  - E. Trauma of right hand soft tissues
16. Examination of a 9-month-old girl revealed skin pallor, cyanosis during excitement. Percussion revealed transverse dilatation of cardiac borders. Auscultation revealed continuous systolic murmur on the left from the breastbone in the 3-4 intercostal space. This murmur is conducted above the whole cardiac region to the back. What congenital cardiac pathology can be suspected?
- A. Defect of interventricular septum
  - B. Defect of interatrial septum
  - C. Coarctation of aorta
  - D. Fallot's tetrad
  - E. Pulmonary artery stenosis
17. 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
18. A child is 4 years old, has been ill for 5 days. There are complaints of cough, skin

rash,  $t^{\circ}$ - 38, 2 $^{\circ}$ C, face puffiness, photophobia, conjunctivitis. Objectively: there is bright, maculo-papulous, in some areas confluent rash on the face, neck, upper chest. The pharynx is hyperemic. There are seropurulent discharges from the nose. Auscultation revealed dry rales in lungs. What is the most likely diagnosis?

- A. Measles
- B. Adenoviral infection
- C. Scarlet fever
- D. Rubella
- E. Enterovirus exanthema

19. A child was taken to a hospital with focal changes in the skin folds. The child was anxious during examination, examination revealed dry skin with solitary papulous elements and ill-defined lichenification zones. Skin eruption was accompanied by strong itch. The child usually feels better in summer, his condition is getting worse in winter. The child has been artificially fed since he was 2 months old. He has a history of exudative diathesis. Grandmother by his mother's side has bronchial asthma. What is the most likely diagnosis?

- A. Atopic dermatitis
- B. Contact dermatitis
- C. Seborrheal eczema
- D. Strophulus
- E. Urticaria

20. 2 weeks after recovering from angina an 8-year-old boy developed edemata of face and lower limbs. Objectively: the patient is in grave condition, AP- 120/80 mm Hg. Urine is of dark brown colour. Oliguria is present. On urine analysis: relative density - 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 (big number). 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

21. 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 didn't 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

22. A newborn's head is of dolichocephalic shape, that is front-to-back elongated. Examination of the occipital region of head revealed a labour tumour located in the middle between the prefontanel and posterior fontanel. The delivery took place with the following type of fetus head presentation:

- A. Posterior vertex presentation
- B. Anterior vertex presentation
- C. Presentation of the bregma



**D. Brow presentation**

**E. Face presentation**

23. A 16-year-old boy was admitted to the hospital for the reason of intractable nasal haemorrhage and intolerable pain in the right cubital articulation. Objectively: the affected articulation is enlarged and exhibits defiguration and skin hyperaemia. There are manifestations of arthropathy in the other articulations. Ps- 90 bpm; colour index - 1,0, WBC -  $5,6 \cdot 10^9/l$ , thrombocytes-  $220 \cdot 10^9/l$ , ESR - 6 mm/h.

Lee-White coagulation time: start - 24', finish - 27'10". What drug will be the most effective for this patient treatment?

**A. Cryoprecipitate**

**B. Calcium chloride**

**C. Erythromass**

**D. Aminocapronic acid**

**E. Vicasol**

24. A 10-year-old girl consulted a doctor about thirst, frequent urination, weight loss. She has been observing these symptoms for about a month. Objectively: no pathology of internal organs was revealed. What laboratory analysis should be carried out in the first place?

**A. Blood glucose analysis on an empty stomach**

**B. Glucose in urine test on the base of daily diuresis**

**C. Acetone in urine test**

**D. Glucose tolerance test**

**E. Glucosuric profile**

25. An 11-year old girl was taken by an acute disease: she got pain in the lumbar region, nausea, vomiting, frequent urination, body temperature  $39^{\circ}C$ . Objectively: the abdomen is soft, painful on palpation in the lumbar region. Common urine analysis revealed considerable leukocyturia, bacteriuria. The urine contained colibacilli. What is the most likely diagnosis?

**A. Acute pyelonephritis**

**B. Acute appendicitis**

**C. Chronic glomerulonephritis**

**D. Acute vulvovaginitis**

**E. Acute glomerulonephritis**

26. A 16-year-old female patient underwent an operation on account of diffuse toxic goiter of the III-IV degree 12 years ago. Now she has recurrence of thyrotoxicosis. The patient was offered operative intervention, but it is necessary first to localize the functioning gland tissue. What method should be applied for this purpose?

**A. Gland scanning**

**B. USI**

**C. Puncture aspiration biopsy**

**D. Roentgenography of neck**

**E. Roentgenography of esophagus**

27. A 1,5-year-old child was taken by an acute disease: body temperature up to  $39^{\circ}C$ , frequent vomiting up to 5 times. Nervous system tests revealed positive Kernig's and Brudzinski's signs. The given symptoms relate to:

- A. Meningeal signs**
  - B. Discoordination syndrome**
  - C. Motor disorder syndrome**
  - D. Encephalic syndrome**
  - E. Infectious toxicosis signs**
28. A pediatrician had a conversation with a mother of a 7-month-old breast-fed boy and found out that the child was fed 7 times a day. How many times should the child of such age be fed?
- A. 5 times**
  - B. 3 times**
  - C. 4 times**
  - D. 6 times**
  - E. 7 times**
29. A boy is 8 year old. His physical development is compliant with his age. The child has had cardiac murmur since birth. Objectively: skin and visible mucous membranes are of normal colour. AP- 100/70 mm Hg. Auscultation revealed systolic-diastolic murmur and diastolic shock above the pulmonary artery. ECG shows overload of the left heart. Roentgenoscopy shows coarsening of the lung pattern, heart shadow of normal form. What is the most likely diagnosis?
- A. Atrioseptal defect**
  - B. Pulmonary artery stenosis**
  - C. Aorta coarctation**
  - D. Fallot's tetrad**
  - E. Patent ductus arteriosus**
30. A 10-year-old girl was admitted to a hospital with carditis presentations. It is known from the anamnesis that two weeks ago she had exacerbation of chronic tonsillitis. What is the most likely etiological factor in this case?
- A. Streptococcus**
  - B. Staphylococcus**
  - C. Pneumococcus**
  - D. Klebsiella**
  - E. Proteus**
31. A full-term infant has respiratory rate of 26/min, heart rate of 90/min, blue skin, muscle hypotonia. During catheter suction of mucus and amniotic fluid from the nose and mouth the child reacted with a grimace. Low reflexes. Auscultation revealed weakened vesicular respiration above lungs. Heart sounds are loud. After 5 minutes the respiration became rhythmic, at the rate of 38/min, heart rate of 120/min. What is the most likely diagnosis?
- A. Asphyxia**
  - B. Inborn pneumonia**
  - C. Birth trauma**
  - D. Bronchopulmonary dysplasia**
  - E. Respiratory distress syndrome**
32. Head circumference of a 1-month-old boy with signs of excitement is 37 cm, pfontanel 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

33. On the second day after preventive vaccination a 2-year-old boy presented with abdominal pain without clear localization, body temperature rose up to  $38^{\circ}\text{C}$ . On the third day the child got red papular haemorrhagic eruption on the extensor surfaces of limbs and around the joints. Knee joints were edematic and slightly painful. Examination of other organs and systems revealed no pathological changes. What is the most likely diagnosis?

- A. Haemorrhagic vasculitis
- B. Thrombocytopenic purpura
- C. Meningococemia
- D. Urticaria
- E. DIC syndrome

34. On the 6th day of life a child got multiple vesicles filled with seropurulent fluid in the region of occiput, neck and buttocks. General condition of the child is normal. What disease should be suspected?

- A. Vesiculopustulosis
- B. Impetigo neonatorum
- C. Miliaria
- D. Impetigo
- E. Epidermolysis bullosa

35. A 3-year-old male patient consulted a family doctor 2 months after he had been operated for an open fracture of brachial bone. Objectively: the patient's condition is satisfactory, in the region of the operative wound there is a fistula with some purulent discharge, redness, fluctuation. X-ray picture shows brachial bone destruction with sequestra. What complication arose in the postoperative period?

- A. Posttraumatic osteomyelitis
- B. Hematogenic osteomyelitis
- C. Wound abscess
- D. Posttraumatic phlegmon
- E. Suture sinus

36. During examination at a military commissariat a 15-year-old teenager was found to have interval systolic murmur on the cardiac apex, diastolic shock above the pulmonary artery, tachycardia. Which of the supplemental examination methods will be the most informative for the diagnosis specification?

- A. Echocardiography
- B. Electrocardiography
- C. Roengenography
- D. Phonocardiography
- E. Rheography

KROK 2011

1. A child is 2 years old. The child complains of hoarse voice, dyspnea with obstructed inspiration. The disease started 3 days ago from dry cough and nose stuffiness. Objectively: general condition is unbalanced, stridor is present. The child's skin is pale. Body temperature is  $37,7^{\circ}\text{C}$ . The palatine arches are hyperemic. There is no deposit. Heart sounds are rhythmic. Auscultation of lungs reveals rough breathing sounds, crepitation is absent. Parainfluenza virus has been detected in nasopharynx lavage. What is the most likely diagnosis?

- A. Acute laryngotracheitis
- B. Epiglottitis

- C. Foreign body
- D. Diphtheria
- E. Laryngospasm

2. Examination of a 9-month-old girl revealed skin pallor, cyanosis during excitement. Percussion revealed transverse dilatation of cardiac borders. Auscultation revealed continuous systolic murmur to the left of the breastbone in the 3-4 intercostal space. This murmur is conducted above the whole cardiac region to the back. What congenital cardiac pathology can be suspected?

- A. Defect of interventricular septum
- B. Defect of interatrial septum
- C. Coarctation of aorta
- D. Fallot's tetrad
- E. Pulmonary artery stenosis

3. On the 21 day after appearance of vesiculous chickenpox rash a 7-year-old child developed ataxia, nystagmus, intention tremor, muscle hypotonia. Liquor analysis shows a low-grade lymphocytic pleocytosis, slightly increased protein rate. What complication is it?

- A. Encephalitis
- B. Purulent meningitis
- C. Pneumonitis
- D. Acute nephritis
- E. Postherpetic neuralgia

4. An 8-year-old boy suffering from haemophilia was undergoing transfusion of packed red cells. Suddenly he felt pain behind the breastbone and in the lumbar area, dyspnea, cold sweat. Objectively: pale skin, heart rate - 100/min, AP - 60/40 mm Hg; oliguria, brown urine. For the treatment of this complication the following drug should be administered:

- B. Prednisolone
- C. Lasix
- D. Adrenaline
- E. Aminophylline
- F. Analgin

5. A 16-year-old patient who has a history of intense bleedings from minor cuts and sores needs to have the roots of teeth extracted. Examination reveals an increase in volume of the right knee joint, limitation of its mobility. There are no other changes. Blood analysis shows an inclination to anaemia (Hb- 120 g/l). Before the dental intervention it is required to prevent the bleeding by means of:

- A. Cryoprecipitate
- B. Epsilon-aminocaproic acid
- C. Fibrinogen
- D. Dried blood plasma
- E. Calcium chloride

6. A 3-year-old child has been diagnosed with type I diabetes mellitus, hyperosmolar coma. The laboratory confirmed the diagnosis. Which laboratory findings are characteristic for such condition?

- A. High hyperglycemia without ketonemia
- B. Hyperglycemia and ketonemia

- C. Hyperglycemia and glucosuria
- D. Hyperglycemia and ketonuria
- E. Hyperglycemia and high indicators of acid-base balance

7. A 3-year-old child was playing in a playpen when he suddenly developed paroxysmal cough and shortness of breath. Objectively: dry cough, mixed dyspnea. Lung auscultation revealed some wheezes. Breathing sounds on the right are diminished. The child doesn't mix with other children. Immunization is age-appropriate. What pathological condition can be suspected?

- A. Foreign body in the respiratory tracts
- B. Pneumonia
- C. Acute respiratory viral infection
- D. Pertussis
- E. Bronchial asthma

8. A 10-year-old child has been followed-up for the dilated cardiomyopathy. The child presents with dyspnea, cardialgia. There are dense, nonmobile edemata on the lower extremities and sacrum. Ps- 120/min. The cardiac borders are extended transversely. Heart sounds are muffled, there is blowing systolic murmur at the apex and over the xiphoid process. Liver is 3 cm enlarged, urine output is reduced. The blood total protein - 58.6 g/l. In urine: protein - 0,025 g/l, WBCs - 2-4 in the field of vision, RBCs - 2-3 in the field of vision. What is the main mechanism of edema syndrome development:

- A. Venous congestion of greater circulation
- B. Venous congestion of lesser circulation
- C. Peripheral circulation disorder
- D. Secondary nephropathy development
- E. Hypoproteinemia

9. A 10-year-old boy underwent treatment in cardiological department for rheumatism, I acute attack of rheumatic fever, active phase, II degree. The patient was discharged in satisfactory condition. Which drug should be chosen for prevention of rheumatism recurrence?

- A. Bicillinum-5
- B. Bicillinum-1
- C. Erythromycin
- D. Ampicillin
- E. Oxacillin

10. Examination of a 13-year-old boy reveals that his body length is 147 cm (+2), body weight - 38 kg (+1,5), circumference of chest - 72 cm (+0,2). Estimate the harmonicity of the child's physical development:

- A. Disharmonious
- B. Harmonious
- C. Above the average
- D. Sharply disharmonious
- E. Supernormal

11. A full-term infant is 3 days old. On the different parts of skin there are erythemas, erosive spots, cracks, areas of epidermis peeling. The infant has scalded skin syndrome. Nikolsky's symptom is positive. General condition of the infant is grave. Anxiety, hyperesthesia, febrile temperature are evident. What is the most probable diagnosis?

- A. Exfoliative dermatitis

- B. Phlegmon of newborn
- C. Finger's pseudofurunculosis
- D. Impetigo neonatorum
- E. Mycotic erythema

12. A 7-year-old boy has been managed for a month. Immediately after hospitalization there were apparent edemata, proteinuria - 7,1 g/l, daily urine protein - 4,2 g. Biochemical blood test shows persistent hypoproteinemia (43,2 g/l), hypercholesterolemia (9,2 millimole/l). The patient is most likely have the following type of glomerulonephritis:

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

13. A child is 7 months old. Birth weight was 3450, the child is breastfed. Supplemental feeding was introduced on time. Determine the daily protein requirements for the child:

- A. 3,0 g/kg
- B. 2,0 g/kg
- C. 2,5 g/kg
- D. 3,5 g/kg
- E. 4,0 g/kg

14. A child is 9 months old. The patient's body temperature is 36,7°C, the skin is pale, humid, there is pain in leg muscles. There is no extremities mobility, sensitivity is present. The child has been diagnosed with poliomyelitis. The causative agent of this disease relates to the following family:

- A. Picornavirus
- B. Paramyxovirus
- C. Toxovirus
- D. Adenovirus
- E. Rotavirus

15. A full-term baby (the 1st uncomplicated pregnancy, difficult labour) had a cephalohematoma. On the 2nd day there was jaundice, on the third the following changes in neurological status appeared: nystagmus, Graefe syndrome. Urine was yellow, feces were of golden-yellow colour. Mother's blood group is A (II) Rh<sup>-</sup>, the baby's one - A (II) Rh<sup>+</sup>. On the third day the child's Hb was 200g/l, RBCs -  $6,1 \cdot 10^{12}/l$ , blood bilirubin - 58 micromole/l at the expense of unbound fraction. What caused the jaundice in the child?

- A. Cranio-cerebral birth trauma
- B. Physiological jaundice
- C. Neonatal anaemia
- D. Biliary atresia
- E. Fetal hepatitis

16. After birth a child was pale and had arrhythmical breathing. Oxygen therapy didn't have any effect. Pulse was weak and rapid. It was difficult to measure arterial pressure accurately. There were no edemata. What is the most likely reason for these symptoms?

- A. Asphyxia
- B. Congestive heart failure
- C. Intracranial haematoma
- D. Intrauterine sepsis
- E. Congenital pneumonia

17. 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 didn't 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 became of a waxy hue. What disease may be suspected?

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

18. On the 3rd day of life a baby presented with haemorrhagic rash, bloody vomit, black stool. Examination revealed anaemia, extended coagulation time, hypoprothrombinemia, normal thrombocyte rate. What is the optimal therapeutic tactics?

- A. Vitamin K
- B. Sodium ethamsylate
- C. Epsilon-aminocaproic acid
- D. Fibrinogen
- E. Calcium gluconate

19. A 3-year-old child has been delivered to a hospital in soporose state with considerable amyotonia, inhibition of tendon and periosteal reflexes. Miosis and asthenocoria are also present. Corneal reflexes are preserved. Pulse is rapid and weak. AP- 80/50 mm Hg. The parents suspect the child of accidental taking some tablets. Such clinical presentations are typical for intoxication with the following tableted drugs:

- A. Tranquilizers
- B. Antropine drugs
- C. Antihypertensive drugs
- D. Barbiturates
- E. Beta-2-adrenoceptor agonists

20. A 5-year-old child developed an acute disease starting from body temperature rise up to  $38,5^{\circ}\text{C}$ , running nose, cough and conjunctivitis. On the 4th day the child presented with maculo-papular rash on face. Body temperature rose again up to  $39,2^{\circ}\text{C}$ . Over the next few days the rash spread over the whole body and extremities. Mucous membrane of palate was hyperemic, there was whitish deposition on cheek mucous membrane next to molars. What is your provisional diagnosis?

- A. Measles
- B. Acute viral respiratory infection
- C. Yersinia
- D. Enterovirus diseases
- E. Rubella

21. A child is 1 year old. After the recent introduction of complementary feeding the child has presented with loss of appetite, diarrhea with large amounts of feces and occasional vomiting, body temperature is normal. Objectively: body weight is 7 kg, the child is very pale, there are edemata of both legs, abdomen is



significantly enlarged. Coprogram shows many fatty acids and soaps. The child has been diagnosed with celiac disease and administered the gluten-free diet. What is to be excluded from the ration?

- A. Cereals - wheat and oats
- B. Milk and dairy products
- C. Fruit
- D. Animal protein
- E. High digestible carbohydrates

22. A 7-year-old child was brought to a doctor for a check. The child has a 4-year history of bronchial asthma, asthma attacks occur mainly in spring and summer. Allergy tests revealed hypersensitivity to poplar seed tufts, field herbs. What recommendation should be given?

- A. Specific hyposensitization
- B. Physiotherapy
- C. Treatment at a health resort
- D. Phytotherapy
- E. Needle reflexotherapy

23. An 8-year-old girl has been admitted to the cardiology department. Objectively: there is a skin lesion over the extensor surfaces of joints with atrophic cicatrices, depigmentation, symmetrical affection of skeletal muscles (weakness, edema, hypotrophy). What disease are these changes most typical for?

- A. Dermatomyositis
- B. Systemic scleroderma
- C. Nodular periarteritis
- D. Systemic lupus erythematosus
- E. Reiter's disease

24. On the 1st day of life a full-term girl (2nd labour) weighing 3500g, with Apgar score of 8 points, presented with jaundice. Indirect bilirubin of blood - was 80 micromole/l, 6 hours later - 160 micromole/l. What is the optimal method of treatment?

- A. Exchange blood transfusion
- B. Phototherapy
- C. Infusion therapy
- D. Phenobarbital treatment
- E. Enterosorbents

25. A child was born at a gestational age of 34 weeks in grave condition. The leading symptoms were respiratory distress symptoms, namely sonorous and prolonged expiration, involving additional muscles into respiratory process. The Siverman score at birth was 0 points, in 3 hours it was 3 points with clinical findings. Which diagnostic study will allow to diagnose the form of pneumopathy?

- A. X-ray of chest
- B. Clinical blood test
- C. Determination of blood gas composition
- D. Proteinogram
- E. Immunoassay

26. A children's surgical unit admitted a 1-month-old boy who had been prenatally diagnosed with the left-sided pyelectasis. Such studies as drip infusion urography, cystography and USI allowed to reveal initial hydronephrosis. There is no information confirming the secondary pyelonephritis. What tactics of this patient management is most advisable?

- A. 6-month surveillance
- B. Urgent nephrostomy
- C. Anderson-Hynes operation
- D. There is no need in further surveillance and treatment
- E. Antibacterial therapy

27. After a 10-year-old child had been bitten by a bee, he was delivered to a hospital. There were lip, face and neck edemata. The patient felt hot and short of breath. Objectively: breathing was laboured and noisy. There were foamy discharges from the mouth, cough. The skin was pale and cold. There was bradypnoea. Heart sounds were muffled and arrhythmic. Thready pulse was present. What diagnosis was made by the expert in resuscitation?

- A. Anaphylactic shock
- B. Quincke's edema
- C. Bronchial asthma
- D. Acute cardiovascular collapse
- E. Cerebral coma

28. A 3-year-old girl presents with pertussis-like cough with thick sputum. There have been persistent changes in lungs since the age of 6 months when she was first diagnosed with acute pneumonia. Chloride concentration in the perspiration is 112 mEq/l. The child has been diagnosed with mucoviscidosis. What is the basis for autosomal recessive disease - mucoviscidosis?

- A. Inadequate transport of sodium and chloride ions
- B.  $\alpha_1$ -antitrypsin deficiency
- C. Deposition of calcium triphosphates and carbonates in the alveoles
- D. Pulmonary cysts
- E. Pulmonary artery hypoplasia

29. A full-term baby was born with body weight of 3200 g, body length of 50 cm, Apgar score - 8-10 points. What is the optimum time for the first breast-feeding?

- A. First 30 minutes
- B. First 6 hours
- C. First 24 hours
- D. First 48 hours
- E. After 48 hours

30. A 3-year-old child has been taken to a pediatrician. He has no recent history of any diseases. Objective examination revealed no pathology of the internal organs. The child needs the routine immunization against the following disease:

- A. Poliomyelitis
- B. Diphtheria and tetanus
- C. Measles, rubella, parotitis
- D. Pertussis
- E. Type B hepatitis

31. A 9-year-old boy fell from a tree and hit the occipital region, there was a momentary loss of consciousness. Objectively: the child's condition is satisfactory, he complains of the headache and dizziness. The X-ray of skull reveals a comminuted depressed fracture of occipital bone in the region of inion. What treatment is indicated for the patient?

- A. Surgical intervention
- B. Anti-inflammatory therapy
- C. Hemostatic therapy
- D. Therapeutic lumbar punctures
- E. Complex conservative treatment

32. A 6-year-old girl drank some coloured fizzy drink which gave her a feeling of pressure in the throat. 30 minutes later the child's lips got swollen, then edema gradually spread over the whole face, laryngeal breathing became difficult. The child is excited. Ps- 120/min, breathing rate - 28/min, breathing is noisy, indrawing of intercostal spaces is observed. What basic aid is most appropriate for the restoration of laryngeal breathing?
- Corticosteroids
  - Sedative drugs
  - Tracheostomy
  - Antibacterial drugs
  - Conicotomy
33. An 8-month-old baby has had problems with nasal breathing and mucopurulent discharge from the nose for a week. Examination reveals a rhinodema, mucopurulent discharges from the middle nasal meatus as well as on the back of pharynx. What disease are these symptoms most typical for?
- Ethmoiditis
  - Sphenoiditis
  - Maxillary sinusitis
  - Frontitis
  - Hemisinusitis
34. A 17-year-old patient complains of pain in the area of the left knee joint. Soft tissues of thigh in the affected region are infiltrated, joint function is limited. X-ray picture of the distal metaphysis of the left femur shows a destruction focus with periosteum detachment and Codman's triangle found at the defect border in the bone cortex. X-ray of chest reveals multiple small focal metastases. What treatment is indicated?
- Palliative chemotherapy
  - Radioiodine therapy
  - Distance gamma-ray therapy
  - Disarticulation of the lower extremity
  - Amputation of the lower extremity
35. 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 respect of its volume and composition. Muscle tonus is within norm. What is the most likely diagnosis?
- Pylorospasm
  - Meningitis
  - Pylorostenosis
  - Microcephaly
  - Craniosostenosis
36. On the 6th day of life a child got multiple vesicles filled with seropurulent fluid in the region of occiput, neck and buttocks. General condition of the child is normal. What disease should be suspected?
- Vesiculopustulosis
  - Impetigo neonatorum
  - Miliaria
  - Impetigo
  - Epidermolysis bullosa
37. A 10-year-old boy periodically has short states (up to 10-15 seconds) that can be characterized as a "sudden blackout" and are accompanied by gaze fixation in the upright position, absent-minded and vacant face expression,

lack of movements and following amnesia. Specify this state:

- A. Absence
- B. Obnubilation
- C. Trance
- D. Fugue
- E. Thought block

KROK 2012

1. Routine examination of a child with a history of bronchial asthma reveals AP of 140/90 mm Hg. The most likely cause of the hypertension is:

- A. Renal disease
- B. Theophylline overdose
- C. Chronic lung disease
- D. Coarctation of the aorta
- E. Obesity

2. A neonate was born from the 1st gestation on term. The jaundice was revealed on the 2nd day of life, then it became more acute. The adynamia, vomiting and hepatomegaly were observed. Indirect bilirubin level was  $275\mu\text{mol/L}$ , direct bilirubin level -  $5\mu\text{mol/L}$ , Hb- 150 g/l. Mother's blood group - O(I), Rh<sup>+</sup>, child's blood group - A(II), Rh<sup>+</sup>. What is the most probable diagnosis?

- A. Hemolytic disease of the neonate (ABO incompatibility), icteric type
- B. Jaundice due to conjugation disorder
- C. Hepatitis
- D. Physiological jaundice
- E. Hemolytic disease of the neonate (Rh - incompatibility)

3. An infant was born with body mass 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 the doctor for a cardiac check up of the 3-year-old son. Where is the left relative heart border located?
- 1 cm left from the left medioclavicular line
  - 1 cm right from the left medioclavicular line
  - Along the left medioclavicular line
  - 1 cm left from the left parasternal line
  - 1 cm right from the left parasternal line
4. A neonate is 5 days old. What vaccination dose of BCG vaccine (in mg) is necessary for vaccination of this child?
- 0,05 mg
  - 0,025 mg
  - 0,075 mg
  - 0,1 mg
  - 0,2 mg
5. A girl is 12-year-old. Yesterday she was overcooled. Now she is complaining on pain in suprapubic area, frequent painful urination by small portions, temperature is  $37,8^{\circ}\text{C}$ . Pasternatsky symptom is negative. Urine analysis: protein - 0,033 g/L, WBC- 20-25 in f/vis, RBC- 1-2 in f/vis. What diagnosis is the most probable?
- Acute cystitis
  - Dysmetabolic nephropathy
  - Acute glomerulonephritis
  - Acute pyelonephritis
  - Urolithiasis
6. A 3-year-old child has been admitted to a hospital because of ostealgia and body temperature rise up to  $39^{\circ}\text{C}$ . Objectively: the patient is in grave condition, unable to stand for ostealgia, there is apparent intoxication, lymph nodes are enlarged up to 1,5 cm. Liver can be palpated 3 cm below the costal margin, spleen - 2 cm below the costal margin. In blood: RBCs -  $3,0 \cdot 10^{12}/\text{l}$ , Hb- 87 g/l, colour index - 0,9, thrombocytes -  $190 \cdot 10^9/\text{l}$ , WBCs -  $3,2 \cdot 10^9/\text{l}$ , eosinophils - 1, stab neutrophils - 1, segmented neutrophils - 0, lymphocytes - 87, monocytes - 2, ESR - 36 mm/h. What examination should be conducted in order to specify the diagnosis?
- Sternal puncture
  - Ultrasound
  - Lymph node puncture
  - Lymph node biopsy
  - Computer tomography
7. A 16-year-old patient who has a history of intense bleedings from minor cuts and sores needs to have the roots of teeth extracted. Examination reveals an increase in volume of the right knee joint, limitation of its mobility. There are no other changes. Blood analysis shows an inclination to anaemia (Hb- 120 g/l). Before the dental intervention it is required to prevent the bleeding by means of:
- Cryoprecipitate
  - Epsilon-aminocaproic acid
  - Fibrinogen
  - Dried blood plasma
  - Calcium chloride
8. A patient, aged 16, complains of headache, mainly in the frontal and temporal areas, superciliary arch, appearing of vomiting at the peak of headache, pain during the eyeballs movement, joint's pain. On examination: excited,  $t^{\circ}$ -  $39^{\circ}\text{C}$ , Ps- 110/min. Tonic and clonus cramps. Uncertain meningeal signs. What is the most likely diagnosis?

- A. Influenza with cerebral edema manifestations
  - B. Influenza, typical disease duration
  - C. Respiratory syncytial virus
  - D. Parainfluenza
  - E. Adenovirus infection
9. A 16-year-old adolescent was vaccinated with DTP. In eight days there was stiffness and pain in the joints, subfebrile temperature, urticarial skin eruption, enlargement of inguinal, cervical lymph nodes and spleen. What kind of allergic reaction is observed?
- A. Immunocomplex
  - B. Hypersensitivity of immediate type
  - C. Cytotoxic
  - D. Hypersensitivity of delayed type
  - E. -
10. A 5-year-old child had an attack of palpitation with nausea, dizziness, generalized fatigue. On ECG: tachycardia with heartbeat rate of 220/min. Ventricle complexes are deformed and widened. *P* wave is absent. What medication is to be prescribed to provide first aid?
- A. Lidocaine
  - B. Isoptin
  - C. Seduxen
  - D. Novocainamides
  - E. Strophantin
11. A child from the first non-complicated pregnancy but complicated labor had cephalhematoma. On the second day there developed jaundice. On the 3th day appeared changes of neurologic status: nystagmus, Graefe's sign. Urea is yellow, feces - golden-yellow. Mother's blood group is  $(II)Rh^-$ , child- $(II)Rh^+$ . On the third day child's Hb-200 g/L, RBC-  $6,1 \cdot 10^{12}/L$ , bilirubin in blood - 58  $\mu\text{mol}/L$  due to unconjugated bilirubin, Ht-0,57. What is the child's jaundice explanation?
- A. Brain delivery trauma
  - B. Physiologic jaundice
  - C. Hemolytic disease of newborn
  - D. Bile ducts atresia
  - E. Fetal hepatitis
12. A 1,5-year-old child fell ill acutely with high temperature  $38^\circ\text{C}$ , headache, fatigue. The temperature declined on the fifth day, muscular pain in the right leg occurred in the morning, there were no movements and tendon reflexes, sensitivity was reserved. What is the initial diagnosis?
- A. Polyomyelitis
  - B. Viral encephalitis
  - C. Polyarthropathy
  - D. Osteomyelitis
  - E. Hip joint arthritis
13. A 7-year-old child was brought to a doctor for a check. The child has a 4-year history of bronchial asthma, asthma attacks occur mainly in spring and summer. Allergy tests revealed hypersensitivity to poplar seed tufts, field herbs. What recommendation should be given?
- A. Specific hyposensitization
  - B. Physiotherapy
  - C. Treatment at a health resort
  - D. Phytotherapy
  - E. Needle reflexotherapy

14. A 5-grade pupil complains about extensive skin rash accompanied by intensive itch, especially at night. Objectively: there are small red papules set mostly in pairs in the region of interdigital folds on both hands, on the flexor surface of radiocarpal articulations, abdomen and buttock skin as well as internal surface of thighs. In the centre of some papules vesicles or serohaemorrhagic crusts can be seen. There are multiple excoriations. What is the most likely diagnosis?
- Scabies
  - Dermatitis
  - Ringworm of body
  - Toxicoderma
  - Eczema
15. A 10-year-old girl consulted a doctor about thirst, frequent urination, weight loss. She has been observing these symptoms for about a month. Objectively: no pathology of internal organs was revealed. What laboratory analysis should be carried out in the first place?
- Blood glucose analysis on an empty stomach
  - Glucose in urine test on the base of daily diuresis
  - Acetone in urine test
  - Glucose tolerance test
  - Glucosuric profile
16. A 6-year-old child complains of frequent liquid stool and vomiting. On the 2nd day of disease the child presented with inertness, temperature rise up to  $38,2^{\circ}\text{C}$ , Ps- 150 bpm, scaphoid abdomen, palpatory painful sigmoid colon, defecation 10 times a day with liquid, scarce stool with mucus and streaks of green. What is a provisional diagnosis?
- Shigellosis
  - Salmonellosis
  - Escherichiosis
  - Intestinalamebiasis
  - Yersiniosis
17. An 18-year-old patient presents no problems. Percussion reveals that heart borders are displaced to the right and left by 1 cm, there is a coarse systolic murmur with its epicenter within the 4th intercostal space on the left. What is the most informative examination to confirm the clinical diagnosis?
- Ventriculography
  - ECG
  - PCG
  - Echocardiography
  - Polycardiography
18. 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. Ps- 185 bpm, of poor volume. AP- 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:
- Paroxysmal atrial tachycardia
  - Sinus tachycardia
  - Paroxysmal ventricular tachycardia
  - Complete AV-block
  - Atrial fibrillation
19. A 1-month-old child became restless and presented with an increase in head sweating. It's known from the history that the child has been fed with cow's milk since birth

(September 5). Examination revealed craniotabes. A doctor administered a course of UV radiation. Decide, if the child needs ergocalciferol:

- A. 2-2,5 months after the UVR withdrawal
- B. Does not need
- C. In combination with UVR
- D. Immediately after the UVR withdrawal
- E. A month after the UVR withdrawal

20. A child is 2 days old. He was born with a weight of 2900 kg, body length of 50 cm. On examination the skin is intensely red, elastic, with preserved turgor. Puerile respiration is present. Respiration rate - 40/min, cardiac sounds are rhythmic, sonorous. HR- 138/min. The abdomen is soft. The liver extends 2 cm below the costal margin. Diuresis is sufficient. Stool is in form of meconium. What is the most likely diagnosis?

- A. Physiological erythema of the newborn
- B. Toxic erythema of the newborn
- C. Neonatal phlegmon
- D. Erysipelas
- E. Exfoliative Ritter's dermatitis

21. A neonatologist examining a full-term mature baby revealed the shortening and external rotation of the newborn's lower extremity. Clinical examination revealed positive Ortolani sign, symptom of non-vanishing pulse, additional skin folds on the internal surface of thigh. What is the most likely diagnosis?

- A. Congenital hip dislocation
- B. Dysplasia of the hip joint
- C. Varus deformity of the femoral neck
- D. Femoral neck fracture
- E. Fracture of the femoral shaft

22. A child is being discharged from the surgical department after conservative treatment of invagination. What recommendations should doctor give to mother to prevent this disease recurrence?

- A. Strict following of feeding regimen
- B. Common cold prophylaxis
- C. Feces observation
- D. Gastro-intestinal disease prevention
- E. Hardening of the child

23. A 6-year-old child has duodenal ulcer. What antibacterial drug should be co-administered together with metronidazole and De-Nol in order to eradicate Helicobacter pylori infection?

- A. Amoxicillin
- B. Tetracycline
- C. Oleandomycin
- D. Biseptol
- E. Sulfadimethoxinum

24. A girl of 3 months presents with rhinitis, dyspnea, dry cough. These manifestations has been observed for two days. Objectively: the child has pale skin, acrocyanosis, shallow respiration at the rate of 80/min. Percussion reveals handbox resonance over the whole surface of lungs, there are a lot of fine rales. What is the most likely diagnosis?

- A. Acute bronchiolitis



- B. Pneumonia
- C. Mucoviscidosis
- D. Foreign body of the airway
- E. Acute bronchitis

25. An 8-month-old baby has had problems with nasal breathing and mucopurulent discharge from the nose for a week. Examination reveals a rhinodema, mucopurulent discharges from the middle nasal meatus as well as on the back of pharynx. What disease are these symptoms most typical for?

- A. Ethmoiditis
- B. Sphenoiditis
- C. Maxillary sinusitis
- D. Frontitis
- E. Hemisinusitis

26. A 10-year-old girl was admitted to a hospital with carditis presentations. It is known from the anamnesis that two weeks ago she had exacerbation of chronic tonsillitis. What is the most likely etiological factor in this case?

- A. Streptococcus
- B. Staphylococcus
- C. Pneumococcus
- D. Klebsiella
- E. Proteus

27. All the joints on the left elbow of a newborn are extended, the whole arm hangs vertically along the trunk with the forearm pronated. Active movements in the elbow joint are absent but present in the shoulder joint. The hand is flattened, atrophied, cold to the touch, hangs passively. Grasp reflex and hand-mouth reflex on the affected side are missing. Haemogram values are normal. What is the most likely diagnosis?

- A. Inferior distal obstetrical paralysis
- B. Osteomyelitis
- C. Proximal obstetrical paralysis
- D. Complete obstetrical paralysis
- E. Hypoxic-ischemic encephalopathy

28. 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 respect of its volume and composition. Muscle tonus is within norm. What is the most likely diagnosis?

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

29. On the second day after preventive vaccination a 2-year-old boy presented with abdominal pain without clear localization, body temperature rose up to 38°C. On the third day the child got red papular haemorrhagic eruption on the extensor surfaces of limbs and around the joints. Knee joints were edematous and slightly painful. Examination of other organs and systems revealed no pathological changes. What is the most likely diagnosis?

- A. Haemorrhagic vasculitis
- B. Thrombocytopenic purpura
- C. Meningococemia
- D. Urticaria
- E. DIC syndrome

30. On the 6th day of life a child got multiple vesicles filled with seropurulent fluid in the region of occiput, neck and buttocks. General condition of the child is normal. What disease should be suspected?

- A. Vesiculopustulosis
- B. Impetigo neonatorum
- C. Miliaria
- D. Impetigo
- E. Epidermolysis bullosa

31. A 3-year-old male patient consulted a family doctor 2 months after he had been operated for an open fracture of brachial bone. Objectively: the patient's condition is satisfactory, in the region of the operative wound there is a fistula with some purulent discharge, redness, fluctuation. X-ray picture shows brachial bone destruction with sequestra. What complication arose in the postoperative period?

- A. Posttraumatic osteomyelitis
- B. Hematogenic osteomyelitis
- C. Wound abscess
- D. Posttraumatic phlegmon
- E. Suture sinus

32. A 14-year-old patient with signs of internal haemorrhage has been taken to a hospital after a fight. He has had haemophilia A since childhood. He has been diagnosed with retroperitoneal hematoma. What should be administered in the first place?

- A. Cryoprecipitate
- B. Aminocaproic acid
- C. Dried plasma
- D. Platelet concentrate
- E. Fresh blood

33. A patient is 14 years old. Cytochemical study of punctate revealed 40% of blasts, there was negative reaction to peroxidase and with Sudan black, positive reaction to glycogen. Specify the form of acute leukemia:

- A. Lymphoblastic
- B. Myeloblastic
- C. Monoblastic
- D. Promyelocytic
- E. Undifferentiated

34. The condition of a 3-year-old child with acute non-rheumatic myocarditis has suddenly deteriorated: he presents with anxiety, acrocyanosis, peripheral edemata, dyspnea. Auscultation of lungs reveals fine moist rales on both sides mainly in the lower parts. AP- 65/40 mm Hg. HR- 150/min, heart sounds are muffled, arrhythmic (extrasystole). Liver is +4 cm. Oliguria is present. The child has been diagnosed with

acute heart failure. Which method of examination is most informative for assessing the child's status dynamically?

- A. Echocardiography
- B. ECG
- C. Diuresis monitoring
- D. Monitoring of  $K^+$ ,  $Na^+$  concentration in blood
- E. 24-hour monitoring of heart rhythm

35. A full-term newborn was born with body weight of 4000 g, body length of 57 cm. Reaction to the postnatal check was absent. There was diffuse cyanosis, heart rate of 80/min. What resuscitation measures should be taken?

- A. Start ALV with a mask
- B. Give 100% oxygen
- C. Intubate the child and start ALV
- D. Start tactile stimulation
- E. Give an injection of naloxone

36. A 2-year-old child in a satisfactory condition periodically presents with moderate proteinuria, microhematuria. USI results: the left kidney is undetectable, the right one is enlarged, there are signs of double pyelocaliceal system. What study 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

37. A 3-year-old child with ARVI had been administered biseptol, paracetamol, nazoferon. On the third day of treatment the baby's condition deteriorated: he developed sore throat, stomatitis, conjunctivitis, hypersalivation, painful dark red spots on the neck, face, chest and legs, then the spots were replaced with vesicles. Examination revealed lesions of mucous membranes around the mouth and anus. What is your provisional diagnosis?

- A. Stevens-Johnson syndrome
- B. Atopic dermatitis
- C. Chickenpox
- D. Serum sickness
- E. Bullous dermatitis

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

- A. Year-round bicillin prophylaxis till 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

39. Routine examination of a 16-year-old boy revealed the presence of three heart sounds on auscultation. The third sound is low and occurs in early diastole, there is no additional murmur. In history: pneumonia six months ago. The patient presents no problems. Examination revealed hyposthenia, underdevelopment of muscles. Laboratory and instrumental studies revealed no peculiarities. What is the origin of the

additional heart sound?

- A. Physiological III sound
- B. The sound of the mitral valve opening
- C. Protodiastolic gallop rhythm
- D. Pericardial diastolic sound
- E. The sound of the tricuspid valve opening

KROK 2013

1. 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. Vegetative-vascular dysfunction
- B. Rheumatism
- C. Nonrheumatic carditis
- D. Myocardial degeneration
- E. Intoxication syndrome

2. A 7-year-old boy had complained of headache, nausea, fatigue for 3 weeks. His condition gradually deteriorated, headache and general weakness progressed. The boy had bronchitis at the age of 3. His father has a history of pulmonary tuberculosis. Objectively: body temperature  $37,5^{\circ}\text{C}$ , conscious, lies supine, with the hip and knee flexed to 90 degrees, nuchal rigidity +6 cm, partial ptosis of the right eyelid, the dilated right pupil. General hyperalgesia is present. Liquor: transparent, pressure - 400 mm of water column, protein - 1,5%, cytosis - 610/3 with predominant lymphocytes, sugar - 1,22 mmol/l, chlorides - 500 mmol/l. What is the most likely diagnosis?

- A. Tuberculous meningitis
- B. Secondary purulent meningitis

- C. Epidemic cerebrospinal meningitis
- D. Serous meningitis
- E. Pneumococcal meningitis

3. A 13-year-old girl has a 5-year history of pain in the right hypochondrium irradiating to the right shoulder blade. The pain attacks are usually associated with diet violations, they are short and can be easily relieved by antispasmodic drugs. During a pain attack, palpation of the abdomen is painful, the pain is most intensive in the projection of the gallbladder. What is the most likely diagnosis?

- A. Biliary dyskinesia
- B. Chronic cholecystitis
- C. Chronic gastroduodenitis
- D. Chronic pancreatitis
- E. Duodenal ulcer

4. An 18-year-old patient since childhood suffers from bleeding disorder after minor injuries. His younger brother also has bleeding disorders with occasional haemarthrosis. Which laboratory test will be informative for diagnosis verification?

- A. Clotting time
- B. Fibrinogen rate
- C. Blood clot retraction
- D. Thrombocyte count
- E. Determination of prothrombin time

5. A 12-year-old boy has a 6-year history of insulin-dependent diabetes. The disease is labile. Since recently there have been periodical rises in blood pressure. Microalbuminuria test gave positive results. The patient's condition corresponds with the following stage of diabetic nephropathy:

- A. Stage III - early-stage nephropathy
- B. Stage I - renal hypertrophy and hyperfunction
- C. Stage II - histological changes in the kidneys
- D. Stage IV - advanced clinical nephropathy
- E. V stage - chronic renal failure

6. Full-term pregnancy. Body weight of the pregnant woman is 62 kg. The fetus has the longitudinal position, the fetal head is pressed against the pelvic inlet. Abdominal circumference is 100 cm. Fundal height is 35 cm. What is the approximate weight of the fetus?

- A. 3 kg 500 g
- B. 4 kg
- C. 2 kg 500 g
- D. 3 kg
- E. 4 kg 500 g

7. A newborn's head is of dolichocephalic shape, that is front-to-back elongated. Examination of the occipital region revealed a labour tumour located in the middle between the prefontanel and posterior fontanel. Specify the type of fetal presentation:

- B. Posterior vertex presentation
- C. Anterior vertex presentation
- D. Presentation of the bregma
- E. Brow presentation
- F. Face presentation

8. A 9-month-old child presents with fever, cough, dyspnea. The symptoms appeared

5 days ago after a contact with a person having ARVI. Objectively: the child is in grave condition. Temperature of  $38^{\circ}\text{C}$ , cyanosis of nasolabial triangle is present. RR-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 predominating on the right. What is the most likely diagnosis?

- A. Acute pneumonia
- B. ARVI
- C. Acute laryngotracheitis
- D. Acute bronchitis
- E. Acute bronchiolitis

9. An 8-year-old child complains of fever up to  $38,8^{\circ}\text{C}$ , throat pain when swallowing, skin rash. Objectively: lacunar tonsillitis, circumscribed hyperaemia and enanthema of soft palate, pinpoint-sized skin rash, mostly in the folds and on the flexor surfaces of the extremities, pale nasolabial triangle. Which antibiotic should be administered in the first place?

- A. Penicillin
- B. Gentamicin
- C. Ampicillin
- D. Lincomycin
- E. Tetracycline

10. A 16-year-old girl had had polyuria, polydipsia for 2 months. She had lost 8 kg with a good appetite. The patient was urgently hospitalized for abdominal pain and nausea. Examination revealed glycemia at the rate of 18 mmol/l, glycosuria at the rate of 24 g/l. Insulin and infusion of isotonic solutions of sodium chloride and glucose eliminated these problems, including thirst. What is the most likely diagnosis?

- A. Diabetes mellitus type 1
- B. Diabetes mellitus type 2
- C. Renal glycosuria
- D. Diabetes insipidus
- E. Secondary (symptomatic) diabetes

11. A boy was born at 32 weeks gestation. 2 hours after birth he developed respiratory distress. The RD severity assessed by Silverman score was 5. The respiratory disorders progressed, respiratory failure couldn't be eliminated by Martin-Bouyer CPAP (continuous positive airway pressure). Ro-gram of lungs shows reticular and nodular pattern, air bronchogram. What is the most likely cause of respiratory distress syndrome?

- A. Hyaline membrane disease
- B. Segmental atelectasis
- C. Bronchopulmonary dysplasia
- D. Congenital pulmonary emphysema
- E. Edematous hemorrhagic syndrome

12. An 8-year-old child with a 3-year history of diabetes was hospitalized in hyperglycemic coma. Specify the initial dose of insulin to be administered:

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

13. A 12-year-old girl undergoes regular gastroenterological check-ups for duodenal ulcer, biliary dyskinesia. What is the recommended frequency of anti-relapse

treatment?

- A. Twice a year
- B. Every 2 months
- C. Every 3 months
- D. Once a year
- E. Three times a year

14. A child undergoes in-patient treatment for acute staphylococcal destruction of the right lung. Unexpectedly he developed acute chest pain on the right, dyspnea, cyanosis. The right side of chest lags behind in the respiratory act. Percussion reveals dullness in the lower parts on the right, bandbox resonance in the upper parts. Borders of the relative cardiac dullness are shifted to the left. What complication has most likely developed?

- A. Right-sided pyopneumothorax
- B. Pleural empyema
- C. Spontaneous pneumothorax
- D. Exudative pleuritis
- E. Right lung abscess

15. Examination of a 13-year-old girl revealed acute glomerulonephritis, nephritic syndrome at the initial stage without renal dysfunction. What is the main drug of choice for the basic therapy of this patient?

- A. Antibiotic
- B. Prednisolone
- C. Curantyl
- D. Heparin
- E. Saluretic

16. A 6-year-old child complains of frequent liquid stool and vomiting. On the 2nd day of disease the child presented with inertness, temperature rise up to  $38,2^{\circ}\text{C}$ , Ps- 150 bpm, scaphoid abdomen, palpatory painful sigmoid colon, defecation 10 times a day with liquid, scarce stool with mucus and streaks of green. What is a provisional diagnosis?

- A. Shigellosis
- B. Salmonellosis
- C. Escherichiosis
- D. Intestinal amebiasis
- E. Yersiniosis

17. A 13-year-old boy complains of pain in the upper third of his left thigh, body temperature rise up to  $39^{\circ}\text{C}$ . There is a swelling in the upper third of thigh and inguinal fold smoothness. The extremity is in a half-bent position. Active and passive movements are not possible because of the sharp pain. What is the most likely diagnosis?

- A. Acute hematogenous osteomyelitis
- B. Acute coxitis
- C. Intermuscular phlegmon
- D. Osteosarcoma
- E. Brodie's disease

18. A 12-year-old child has been hit on the stomach. The patient is in moderately grave condition, has a forced position in bed. The skin is pale, Ps- 122/min. The stress on the left costal arch causes a slight pain. There are positive Weinert, Kulenkampff symptoms. Macroscopically the urine is unchanged. What is the most likely

diagnosis?

- A. Spleen rupture, abdominal bleeding
- B. Left kidney rupture, retroperitoneal hematoma
- C. Rupture of the pancreas
- D. Liver rupture, abdominal bleeding
- E. Rupture of a hollow organ, peritonitis

19. An 8-month-old baby has decreased appetite, pale skin, enlarged right side of abdomen. Palpation the right side of abdomen reveals a dense elastic tumour-like formation 10x7 cm large. There is a positive ballotement sign. What is the most likely diagnosis?

- A. Nephroblastoma (Wilms' tumour)
- B. Liver tumour
- C. Congenital hydronephrosis
- D. Colon pathology
- E. Intestinal tumour

20. An infant is 3 weeks old. Since birth there has been observed periodical vomiting within a few minutes after feeding. The amount of vomitive masses does not exceed that of previous feeding. The infant has age-appropriate body weight. What is the most likely cause of this symptom?

- A. Pylorospasm
- B. Esophageal achalasia
- C. Adrenogenital syndrome
- D. Pyloristhenosis
- E. Esophageal achalasia

21. A 13-year-old girl complains of fever up to 37,4°C during the last 2 months after recovering from ARVI. Objectively: malnutrition, diffuse grade II enlargement of the thyroid gland feeling dense on palpation, exophthalmos, tachycardia. What kind of pathological syndrome is it?

- A. Thyrotoxicosis
- B. Hypothyroidism
- C. Hypoparathyroidism
- D. Hyperparathyroidism
- E. Thymomegaly

22. On the 2nd day of life a full-term boy developed mild jaundice of skin and mucous membranes, the general condition of the child is normal. Blood test results: indirect hyperbilirubinemia - 120 mmol/l. The child's blood group is A(II) Rh(+), his mother's blood group - B(III) Rh(+). What is the doctor's tactics of choice?

- A. No drug therapy
- B. Treatment with enterosorbents
- C. Treatment with prednisolone
- D. Treatment with cholekinetics
- E. Blood transfusion

23. From urine of a 14-year-old boy with the exacerbation of secondary obstructive pyelonephritis *Pseudomonas aeruginosa* was isolated with a titer of 1000000 microbes per 1 ml. Which antibiotic is most advisable to be administered in this case?

- A. Ciprofloxacin
- B. Ampicillin



- C. Cefazolinum
- D. Azithromycin
- E. Chloramphenicol

24. A 14-year-old boy with a history of chronic tonsillitis and sinusitis has developed a feeling of heart irregularities and additional pulse. HR- 83/min. ECG results: regular impulses with no visible *P* wave that occur every two sinus contractions, *QRS* complex is dramatically deformed and prolonged to over 0,11 s, *T* wave is discordant followed by a complete compensatory pause. Specify the arrhythmia type:

- A. Trigeminal extrasystole
- B. Bigeminal extrasystole
- C. Partial AV-blockade
- D. Complete AV-block
- E. Left bundle branch block

25. 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. Ps- 185 bpm, of poor volume. AP- 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

26. A baby is 3 months old. The mother consulted a pediatrician about lack of breast milk. After several test weighings it was found that the child had to receive supplementary feeding. What is the optimal milk formula for this child?

- A. Malysh
- B. Milk formula № 2
- C. Milk formula № 3
- D. Whole cow's milk
- E. Malutka

27. Examination of a newborn revealed skin redness that appeared immediately after birth and reached the maximum intensity on the second day of life. What is your provisional diagnosis?

- A. Simple erythema
- B. Toxic erythema
- C. Transient erythema
- D. Erythema nodosum
- E. Annular erythema

28. 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. Not to go in for sports
- D. To avoid spa treatment

E. Not to go to the seaside

29. 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

30. A 10-year-old child has been admitted to a hospital with a closed craniocerebral injury with suspected cerebral edema. The patient is in grave condition, unconscious. The dyspnea, tachycardia, hypertension are present. Muscle tone is increased, there is nystagmus, pupillary and oculomotor reactions are disturbed. The mandatory component of intensive care is dehydration. What diuretic is adequate in this case?

- A. Furosemide
- B. Mannitol
- C. Hydrochlorothiazide
- D. Spironolactone
- E. Moduretic

31. A baby born after fast labour has palsy of hand muscles. Grasp reflex is absent, as well as hand-to-mouth reflex. Hand sensitivity is absent. What is the most likely diagnosis?

- A. Dejerine-Klumpke palsy
- B. Duchenne-Erb's palsy
- C. Total lesion of the brachial plexus
- D. Muscle paresis
- E. Bernard-Horner syndrome

32. A child is 12 years old. He complains of a dull aching pain in the epigastrium and right hypochondrium, that is getting worse after taking fatty or fried food, headache, weakness, nausea, low-grade fever. Abdominal palpation reveals a marked resistance of muscles in the right hypochondrium, positive Kerr's, Ortner's, Murphy's symptoms. What is the most likely diagnosis?

- A. Chronic cholecystitis
- B. Acute appendicitis
- C. Viral hepatitis
- D. Acute gastritis
- E. Acute pancreatitis

33. A 3-month-old girl presents with rhinitis, dyspnea, dry cough. These manifestations has been observed for two days. Objectively: the child has pale skin, acrocyanosis, shallow respiration at the rate of 80/min. Percussion reveals handbox resonance over the whole surface of lungs, massive rales. What is the most likely diagnosis?

- A. Acute bronchiolitis

- B. Pneumonia**
- C. Mucoviscidosis**
- D. Foreign body of the airway**
- E. Acute bronchitis**

34. A newborn (mother's I pregnancy) weighing 3500 g presents with jaundice, lethargy, reduced reflexes. Objectively: second grade jaundice of skin with saffron tint, liver - +2cm, spleen - +1 cm. Urine and feces are yellow. Blood count: Hb- 100 g/l, RBCs -  $3,2 \cdot 10^{12}/l$ , WBCs -  $18,7 \cdot 10^9/l$ , mother's blood type - 0(I) Rh(+), baby's blood type - A(II) Rh(-), bilirubin - 170 mmol/l, indirect fraction. ALT, AST rates are normal. What disease is the child most likely to have?

- A. Hemolytic disease of newborn, AB0- conflict**
- B. Perinatal hepatitis**
- C. Hemolytic disease of newborn, Rh- conflict**
- D. Biliary atresia**
- E. Physiologic jaundice**

35. A 15-year-old boy feels pain in the region of the left knee joint. Objectively: the soft tissues in the affected region are infiltrated, the joint function is limited. Radiography reveals a focus of bone destruction in the distal metaepiphyseal segment of the left femur. The destruction is accompanied by periosteal detachment and a defect formed within cortex of Codman triangle bone. X-ray of chest shows multiple microfocal metastases. What is the most likely pathology?

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

36. 10 days after birth a newborn developed a sudden fever up to 38,1°C. Objectively: the skin in the region of navel, abdomen and chest is erythematous; there are multiple pea-sized blisters with no infiltration at the base; single bright red moist erosions with epidermal fragments on the periphery. What is your provisional diagnosis?

- A. Epidemic pemphigus of newborn**
- B. Syphilitic pemphigus**
- C. Streptococcal impetigo**
- D. Vulgar impetigo**
- E. Atopic dermatitis**

37. Six months ago, a 5-year-old child was operated for CHD. For the last 3 weeks he has complained of fever, heart pain, aching muscles and bones. Examination results: "white-coffee" skin colour, auscultation revealed systolic murmur in the region of heart along with a noise in the III-IV intercostal space. Examination of fingertips revealed Janeway lesions. What is your provisional diagnosis?

- A. Infectious endocarditis**
- B. Sepsis**
- C. Nonrheumatic carditis**
- D. Acute rheumatic fever**
- E. Typhoid fever**

38. A 2-year-old child in a satisfactory condition periodically presents with moderate proteinuria, microhematuria. USI results: the left kidney is undetectable, the

right one is enlarged, there are signs of double pyelocaliceal system. What study 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

39. An 8-year-old boy has a 2-year history of blotchy itchy rash appearing after eating citrus fruit. The first eruption occurred at the age of 6 months after the introduction of juices to the baby's diet. Father has a history of bronchial asthma, mother - that of allergic rhinitis. What is the most likely diagnosis?

- A. Atopic dermatitis
- B. Psoriasis
- C. Pityriasis Rosea
- D. Urticaria
- E. Quincke's edema

40. A 22-day-old infant had developed red subcutaneous nodules from 1,0 to 1,5 cm large on the scalp. Later the nodules suppurred, body temperature rose up to 37,7°C, there appeared symptoms of intoxication, the regional lymph nodes grew bigger. Blood test results: anemia, leukocytosis, neutrophilia, accelerated ESR. What is the most likely diagnosis?

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

41. A 10-year-old patient complains of skin itch that occurs at night. Objectively: multiple paired papules, burrow tracks in the interdigital skin folds, on the anterolateral surfaces of abdomen and buttocks. Specify the period of regular medical check-up for pupils of the class where the patient learns:

- A. 2 months
- B. 2 weeks
- C. 5 days
- D. 6 months
- E. 1 year

42. A 7-year-old female child has developed an acute condition. She complains of a headache, two onsets of vomiting. Objectively: fever, body temperature - 39,3°C, pronounced hyperesthesia, nuchal rigidity, positive superior and inferior Brudzinski's signs, symmetric Kernig's sign. What is the provisional diagnosis?

- A. Meningitis
- B. Food toxicoinfection
- C. Craniocerebral trauma
- D. Toxic encephalopathy
- E. Encephalitis

#### KROK 2014

1. A 2-year-old boy has been admitted to the casualty department for the pain and deformity of his right thigh. Radiograph shows a femoral fracture with longitudinal displacement. What method of treatment is indicated for the patient?

  - A. Schede-type vertical suspension
  - B. Closed reduction
  - C. Intramedullary osteosynthesis
  - D. Use of Ilizarov apparatus
  - E. Periosteal osteosynthesis
  
2. A 7-year-old child complains of itching, papular erythematous rash, dry skin. Objectively: there is lichenification in the popliteal fossae and antecubital spaces. What immunologic indicator if found in the blood serum will verify the diagnosis (atopic dermatitis)?

  - A. Total IgE
  - B. Secretory IgA
  - C. IgM
  - D. IgG
  - E. IgD
  
3. A 7-year-old patient presents with body temperature rise up to  $39^{\circ}\text{C}$ , dry cough, pain in the lateral abdomen. Objectively: there is cyanosis of the nasolabial triangle, inspiratory dyspnea with accessory muscle recruitment. Percussion reveals pulmonary dullness; among auscultation findings there are diminished breath sounds, crepitant rales. Respiratory rate is of 50/min, HR- 120/min. Evaluate the grade of

respiratory failure in the patient:

- A. II
- B. I
- C. III
- D. IV
- E. 0

4. An 8-year-old boy was brought to the admission department by his parents. Parents report that he has had pain in the right knee for the last 9 months, recently mother has noticed some limitation of motion in his right leg, and morning stiffness that doesn't last till the evening. What is the most likely diagnosis?

- A. Juvenile rheumatoid arthritis
- B. Rheumatism
- C. Osteomyelitis of the knee joint
- D. Reactive arthritis
- E. Traumatic arthritis

5. A 3-year-old girl has had an increase in body temperature up to  $38,5^{\circ}C$  for four days. The child refuses to eat. Over the last two days, nose and mouth breathing has become difficult. Mesopharyngoscopy reveals hyperthermia and enlargement of tonsils, as well as hyperemia and bulging of the posterior wall of the oropharynx, which significantly narrows the oropharyngeal lumen. What complication of quinsy occurred in the patient?

- A. Retropharyngeal abscess
- B. Paratonsillar abscess
- C. Parapharyngeal abscess
- D. Phlegmon of the mouth floor
- E. Laryngostenosis

6. A 9-year-old patient has measles. On the 6th day after the rash appeared, the boy developed a condition manifested by dyspnea, barking cough, stentorian respiration. Objectively: the rash on the face, neck and torso turned brown. There is a branny desquamation. Respiratory rate is 22/min. What complication should be diagnosed?

- A. Laryngotracheitis
- B. Bronchitis
- C. Pneumonia
- D. Pharyngitis
- E. Quinsy

7. A 13-year-old boy with hypertrophic cardiomyopathy complains of dyspnea on minimal exertion. EchoCG reveals asymmetric left ventricular hypertrophy, signs of pulmonary hypertension, dilatation of the left atrium. EF is 64%. The revealed alterations are indicative of:

- A. Diastolic heart failure
- B. Systolic heart failure
- C. Primary pulmonary hypertension
- D. Primary arterial hypertension
- E. Symptomatic arterial hypertension

8. A 6-year-old boy complains of paroxysmal pain that occurs after a mental stress, consuming cold drinks or ice cream. After clinical and instrumental examination the boy has been diagnosed with hypertensive biliary dyskinesia. The drugs of the following groups should be administered in the first place:

- A. Antispasmodics and cholagogues
- B. Cholagogues and choleretics
- C. Sedatives and choleretics
- D. Antioxidants
- E. Antibiotics

9. A 15-year-old patient consulted a dermatologist about a painful lump in the armpit. Objectively: there is a walnut-sized node, lymphadenitis, infiltration of the surrounding tissues. The patient has been diagnosed with hidradenitis. What is the most likely causative agent of this disease?
- Staphylococci
  - Streptococci
  - Proteus vulgaris
  - Pseudomonas aeruginosa
  - Mixed infection
10. Mother of a 10-month-old baby reports significant pallor, poor appetite, enlarged abdomen in the baby. As a neonate, the child underwent treatment in the in-patient hospital for jaundice and anemia. Objectively: the skin is pale and jaundiced, teeth are absent, abdomen is enlarged, spleen is palpable. Blood test results: Hb- 90 g/l, RBC-  $3,0 \cdot 10^{12}/l$ , color index - 0,9, microspherocytosis, reticulocytosis up to 20%, serum bilirubin - 37 mmol/l, unconjugated bilirubin - 28 mmol/l. What type of anemia has occurred in the patient?
- Hemolytic anemia
  - Iron-deficiency anemia
  - Protein-deficiency anemia
  - $B_{12}$ -deficiency anemia
  - Hereditary elliptocytosis
11. An infant is 2 days old. He was born full-term with signs of intrauterine infection, and therefore receives antibiotics. Neonates should be given antibiotics at longer intervals and lower doses compared to older children and adults because:
- Neonates have lower glomerular filtration
  - Neonates have lower concentration of protein and albumin in blood
  - Neonates have a reduced activity of glucuronyl transferase
  - Neonates have a decreased blood pH
  - Neonates have higher hematocrit
12. Examination of a full-term 6-day-old infant revealed that different areas of skin had erythemas, flaccid bubbles, eroded surface, cracks, peeling of the epidermis looking like being scalded with boiling water. There was positive Nikolsky's symptom. General condition of the child was serious. The child was restless, hypersensitive, febrile. What is the most likely diagnosis in this case?
- Ritter's exfoliative dermatitis
  - Neonatal phlegmon
  - Finger's pseudofurunculosis
  - Neonatal pemphigus
  - Epidermolysis
13. A 5-year-old girl has had thirst, polyuria, increased appetite for two months. At the same time, there is a 3 kg decrease in body weight. During the last week, these presentations got accompanied by nocturnal enuresis. Examination revealed hyperglycemia at the rate of 14 mmol/l. The child has been diagnosed with type I diabetes. What is the most likely genesis of this disease?
- Autoimmune
  - Viral
  - Bacterial
  - Neurogenic
  - Viral and bacterial
14. An 8-year-old child with a 3-year history of diabetes was hospitalized in hyperglycemic coma. Specify the initial dose of insulin to be administered:
- 0,1-0,2 U/kg of body weight per hour

- B.** 0,05 U/kg of body weight per hour
- C.** 0,2-0,3 U/kg of body weight per hour
- D.** 0,3-0,4 U/kg of body weight per hour
- E.** 0,4-0,5 U/kg of body weight per hour

15. A 12-year-old girl undergoes regular gastroenterological check-ups for duodenal ulcer, biliary dyskinesia. What is the recommended frequency of anti-relapse treatment?

- A.** Twice a year
- B.** Every two months
- C.** Every 3 months
- D.** Once a year
- E.** Three times a year

16. A 4-year-old boy had untimely vaccination. He complains of painful swallowing, headache, inertness, fever. Objectively: the child is pale, has enlarged anterior cervical lymph nodes, swollen tonsils with cyanotic hyperemia, tonsils are covered with gray-white pellicles which cannot be easily removed. When the pellicles are forcibly removed, the tonsils bleed. What is the most likely diagnosis?

- A.** Oropharyngeal diphtheria
- B.** Lacunar tonsillitis
- C.** Pseudomembranous tonsillitis
- D.** Infectious mononucleosis
- E.** Follicular tonsillitis

17. A 9-year-old girl has been admitted to a hospital for an elevated body temperature (39,8°C), painful dry cough, abdominal pain on the right. Examination reveals dullness on percussion on the right, diminished breath sounds, crepitus. What study is required to make a diagnosis?

- A.** Radiography of the chest cavity
- B.** USI of the chest cavity
- C.** Pleural puncture
- D.** Bronchoscopy
- E.** Bronhography

18. A newborn has purulent discharges from the umbilical wound, the skin around the navel is swollen. The baby's skin is pale, with a yellow-gray tint, generalized hemorrhagic rash is present. What is the most likely diagnosis?

- A.** Sepsis
- B.** Hemorrhagic disease of the newborn
- C.** Hemolytic disease of the newborn
- D.** Thrombocytopenia
- E.** Omphalitis

19. A 10-year-old child with a history of nonrheumatic carditis has periodic attacks manifested by heart pain, dyspnea, pallor, high blood pressure, a dramatic increase in heart rate up to 180/min. What drug would be most effective to treat this patient?

- A.** Obsidan
- B.** Procainamide
- C.** Lidocaine
- D.** Verapamil
- E.** Ajmaline

20. A 10-year-old child has been admitted to a hospital with a closed craniocerebral injury with a suspected cerebral edema. The patient is in grave condition, unconscious. The dyspnea, tachycardia, hypertension are present. Muscle tone is increased, there is nystagmus,



pupillary and oculomotor reactions are impaired. The mandatory component of intensive care is dehydration. What diuretic is adequate in this case?

- A. Furosemide
- B. Mannitol
- C. Hydrochlorothiazide
- D. Spironolactone
- E. Moduretic

21. An 11-year-old girl has been immunized according to her age and in compliance with the calendar dates. What vaccinations should the children receive at this age?

- A. Diphtheria and tetanus
- B. TB
- C. Polio
- D. Hepatitis B
- E. Pertussis

22. A 3-month-old infant has occipital alopecia, restless sleep, excessive sweating. What disease can you think of?

- A. Rickets
- B. Spasmophilic diathesis
- C. Anemia
- D. Phosphate diabetes
- E. Chondrodystrophy

23. A general practitioner visited a 2-year-old child and diagnosed him with measles. The child attends a nursery, has a 5-year-old sister. What document must be filled in for the effective antiepidemic measures in the given health locality?

- A. Emergency notification on infectious disease (form № 058/o)
- B. Carer's leave certificate
- C. Infant's record (report form № 112/o)
- D. House call record (form № 031/o)
- E. Sick leave

24. It has been suspected that a newborn has congenital diaphragmatic hernia (asphyctic incarceration). What study will allow to confirm the diagnosis?

- A. Plan radiography of the chest cavity
- B. Plan abdominal radiography
- C. Irrigography
- D. Pneumoirrigoscopy
- E. Fibroesophagogastroduodenoscopy

25. During the first home visit to a full-term boy after his discharge from the maternity hospital a pediatrician revealed a symmetrical swelling of mammae without skin changes over them, swelling of the scrotum. The body temperature was of  $36,5^{\circ}C$ . The baby was calm, sucked the mother's breast actively. What condition should you think of?

- A. Hormonal crisis of the newborn
- B. Neonatal mastitis
- C. Sclerema
- D. Necrotic neonatal phlegmon
- E. Congenital adrenal dysfunction

26. A 12-year-old boy presents with nausea, frequent repeated vomiting that first occurred after eating canned vegetables. Objectively: the patient has dry mucous membranes, muscular hypotonia, anisocoria, mydriasis, dysphagia and dysarthria. What is the most likely diagnosis?

- A. Botulism
- B. Shigellosis

- C. Salmonellosis
- D. Cholera
- E. Yersiniosis

27. A newborn (mother's I pregnancy) weighing 3500 g has been found to have jaundice, lethargy, reduced reflexes. Objectively: second grade jaundice of skin with saffron tint, liver - +2 cm, spleen - +1 cm. Urine and feces are yellow. Blood count: Hb- 100 g/l, RBC-  $3,2 \cdot 10^{12}/l$ , WBC-  $18,7 \cdot 10^9/l$ , mother's blood type - 0(I) Rh(+), baby's blood type - A(II) Rh(-), bilirubin - 170 mmol/l, indirect fraction. ALT, AST rates are normal. What is the most likely disease in the child?

- A. Hemolytic disease of newborn, AB0-conflict
- B. Perinatal hepatitis
- C. Hemolytic disease of newborn, Rh-conflict
- D. Biliary atresia
- E. Physiologic jaundice

28. A 12-year-old girl has minor functional and morphological abnormalities: 1,0 D myopia, reduced body resistance. The patient has no history of chronic diseases. Over the last year, there were 4 cases of respiratory diseases. The girl belongs to the following health group:

- A. II
- B. I
- C. III
- D. IV
- E. V

29. A 5-year-old boy has a history of repeated pneumonia, frequent acute respiratory viral diseases. Objectively: exertional dyspnea, minor fatigability. There is a systolic murmur having its epicenter in the IV intercostal space on the left. Left relative dullness is found along the midclavicular line. According to the findings of instrumental methods of examination (electrocardiography, echocardiography), the patient has been diagnosed with ventricular septal defect, subcompensation stage. What is the main method of treatment?

- A. Operative therapy
- B. Phytotherapy
- C. Does not require treatment
- D. Conservative treatment
- E. Indomethacin

30. 10 days after birth, a newborn developed a sudden fever up to  $38,1^{\circ}C$ . Objectively: the skin in the region of navel, abdomen and chest is erythematous; there are multiple pea-sized blisters with no infiltration at the base; single bright red moist erosions with epidermal fragments on the periphery. What is your provisional diagnosis?

- A. Epidemic pemphigus of newborn
- B. Syphilitic pemphigus
- C. Streptococcal impetigo
- D. Vulgar impetigo
- E. Atopic dermatitis

31. At the first minute of life a full-term infant born with umbilical cord entangled around his neck has total cyanosis, apnea, HR- 80/min, hypotonia and areflexia. There are no signs of meconium aspiration. After the airway suctioning the newborn did not start breathing. What is the next action of the doctor?

- A. ALV with a 100%  $O_2$  mask
- B. Intravenous administration of adrenaline
- C. Intravenous administration of etamsylate

- D. Tracheal intubation and ALV
- E. Stimulation of the skin along the spine

32. Examination of an 11-year-old boy revealed frequent nosebleeds, fatigue when walking, underdevelopment of the lower half of the body, increased blood pressure in the upper extremities and decreased pressure in the lower ones, extension of the left heart border, blowing systolic murmur in the interscapular region. ECG shows the horizontal axis of heart. Radiography reveals left cardiomegaly, costal usuration. What is the most likely diagnosis?

- A. Aortarctia
- B. Aortic stenosis
- C. Patent ductus arteriosus
- D. Ventricular septal defect
- E. Atrial septal defect

33. During the preventive examination a 17-year-old young man reports no health problems. Objectively: the patient is undernourished, asthenic; blood pressure is 110/70 mm Hg, Ps- 80/min. Heart borders are within normal range. Auscultation reveals three apical heart sounds, murmurs are absent. ECG shows no pathological changes, PCG registers the S3 occurring 0,15 seconds after the S2. How can you interpret these changes?

- A. Physiologic S3
- B. Fout-ta-ta-rou (three-component rhythm)
- C. Protodiastolic gallop rhythm
- D. Presystolic gallop rhythm
- E. Physiologic S4

34. A 12-year-old boy periodically has short episodes (10-15 seconds) of a brief loss of awareness with a dazed look and eyes stare in an upright position, blank expression of face, absence of motions and subsequent amnesia. Specify the described state:

- A. Absence seizure
- B. Obnubilation
- C. Trance
- D. Fugue
- E. Sperrung

35. A 6-year-old boy had had a quinsy. 9 days later, there appeared edemata of the face, extremities and trunk, general health condition deteriorated. Urine became turbid. Objectively: expressive edemata, ascites. AP- 100/55 mm Hg, diuresis - 0,2 l of urine per day. Results of the biochemical blood analysis: total protein - 50 g/l, cholesterol - 11,28 mmol/l, urea - 7,15 mmol/l, creatinine - 0,08 mmol/l. Urinalysis results: leukocytes - 3-5 per HPF, red blood cells are absent. What is the provisional diagnosis?

- A. Acute glomerulonephritis
- B. Acute pyelonephritis
- C. Urolithiasis
- D. Acute renal failure
- E. Chronic glomerulonephritis

36. A 13-year-old boy has had abdominal pain, bloating, nausea, liquid fatty gray stool with putrid smell for the last 3 years. Palpation reveals epigastric tenderness, as well as tenderness in the Desjardins' pancreatic point, Chauffard's triangle; there is positive Mayo-Robson's sign. Failure of exocrine pancreatic function has been suspected. What is the most informative method for evaluating the state of exocrine pancreatic function?

- A. Fecal elastase-1 determination
- B. Blood serum trypsin determination
- C. Sonography of the pancreas
- D. Blood and urine amylase determination
- E. Scatological study

37. An 8-year-old child was hospitalized for fever up to  $39,8^{\circ}\text{C}$ , inertness, moderate headache, vomiting. Examination revealed meningeal symptoms. Lumbar puncture was performed. The obtained fluid had raised opening pressure, it was transparent, with the cell count of 450 cells per 1 mL (mainly lymphocytes - 90%), glucose level of 2,6 mmol/l. What causative agent might have caused the disease in the child?
- Enterovirus
  - Meningococcus
  - Koch's bacillus
  - Staphylococcus
  - Pneumococcus
38. An 11-year-old boy complains of general weakness, fever up to  $38,2^{\circ}\text{C}$ , pain and swelling of the knee joints, feeling of irregular heartbeat. 3 weeks ago, the child had quinsy. 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/h. CRP is 2+, anti-streptolysin O titre - 400. What is the most likely diagnosis?
- Acute rheumatic fever
  - Vegetative dysfunction
  - Non-rheumatic carditis
  - Juvenile rheumatoid arthritis
  - Reactive arthritis

#### KROK 2015

1. 13 months after the first labor a 24-year-old patient complained of amenorrhea. Pregnancy ended in Caesarian section because of premature detachment of normally positioned placenta which resulted in blood loss at the rate of 2000 ml due to disturbance of blood clotting. Choose the most suitable investigation:
- Estimation of gonadotropin rate
  - US of small pelvis
  - Progesteron assay
  - Computer tomography of head
  - Estimation of testosterone rate in blood serum
2. A 10-year-old boy complains of pain in his left eye and strong photophobia after he has injured his left eye with a pencil at school. Left eye examination revealed: blepharospasm, ciliary and conjunctival congestion, cornea is transparent, other parts of eyeball have no changes. Visus 0,9. Right eye is healthy, Visus 1,0. What additional method would you choose first of all?
- Staining test with 1% fluorescein
  - X-ray examination of orbit
  - Tonometria
  - Gonioscopia
  - Cornea sensation-test
3. An infant was born with body mass 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

4. 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 bilirubin - 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

5. An 18-year-old patient was admitted to a hospital with complaints of headache, weakness, high fever, sore throat. Objectively: enlargement of all groups of lymph nodes was revealed. The liver is enlarged by 3 cm, spleen - by 1 cm. In blood: leukocytosis, atypical lymphocytes - 15%. What is the most probable diagnosis?

- A. Infectious mononucleosis
- B. Acute lymphoid leukosis
- C. Diphtheria
- D. Angina
- E. Adenoviral infection

6. 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

7. An 8-year-old boy during preventive examination was determined to have changes in his spine curvature in frontal plane: the right shoulder is lowered and flat, scapulae angles are of different height due to the right scapula being shifted down. Waist triangles are pronounced on the both sides; longitudinal muscles of the back form muscle cushion on the left. What type of posture is detected in the child?

- A. Scoliotic
- B. Kyphotic
- C. Lordotic
- D. Stooping
- E. Corrected

8. 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

9. 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 cholagogues
- B. Cholagogues and choleretics
- C. Sedatives and choleretics
- D. Antioxidants
- E. Antibiotics

10. A child was taken to a hospital with focal changes in the skin folds. The child was anxious during examination, examination revealed dry skin with solitary papulous elements and ill-defined lichenification zones. Skin eruption was accompanied by strong itch. The child usually feels better in summer, his condition is getting worse in winter. The child has been on bottle feeding since he was 2 months old. He has a history of exudative diathesis. His grandmother on his mother's side has bronchial asthma. What is the most likely diagnosis?

- A. Atopic dermatitis
- B. Contact dermatitis
- C. Seborrheal eczema
- D. Strophulus
- E. Urticaria

11. 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

12. 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 waxy hue. What disease may be assumed?

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

13. 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

14. 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

15. A 6-year-old child complains of frequent liquid stool and vomiting. On the 2nd day of disease the child presented with inertness, temperature rise up to  $38,2^{\circ}\text{C}$ , heart rate - 150 bpm, scaphoid abdomen, palpatory painful sigmoid colon, defecation 10 times a day with liquid, scarce stool with mucus and streaks of green. What is a provisional diagnosis?

- A. Shigellosis
- B. Salmonellosis
- C. Escherichiosis
- D. Intestinal amebiasis
- E. Yersiniosis

16. A 12-year-old child has been hit on the stomach. The patient is in moderately grave condition, has a forced position in bed. The skin is pale, heart rate - 122/min. Stress on the left costal arch causes a slight pain. Weirter and Kulenkampff symptoms are positive. Macroscopically the urine is unchanged. What is the most likely diagnosis?

- A. Spleen rupture, abdominal bleeding
- B. Left kidney rupture, retroperitoneal hematoma
- C. Rupture of the pancreas
- D. Liver rupture, abdominal bleeding
- E. Rupture of a hollow organ, peritonitis

17. A 4-year-old boy was vaccinated in violation of his vaccination schedule. There are complaints of pain in the throat during swallowing, headache, inertness, fever. Objectively: the child is pale; anterior cervical lymph nodes are enlarged; tonsils are swollen, with cyanotic hyperemia, and covered with grey-white coating that cannot be removed; if it is forcibly removed, tonsils bleed. The most likely diagnosis is:

- A. Oropharyngeal diphtheria
- B. Lacunar tonsillitis
- C. Pseudomembranous (Vincent's) tonsillitis
- D. Infectious mononucleosis
- E. Follicular tonsillitis

18. 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 achalasia
- C. Adrenogenital syndrome
- D. Pylorostenosis
- E. Esophageal achalasia

19. During the newborn infant's examination redness of the skin was detected, which occurred immediately after birth and became the most pronounced on the second day of the infant's life.

What provisional diagnosis can be made?

- A. Simple erythema
- B. Toxic erythema
- C. Transient erythema
- D. Erythema nodosum
- E. Erythema anulare centrifugum

20. 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

21. 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

22. A 3-month-old girl has rhinitis, dyspnea, dry cough. She has been sick for 2 days. Objectively: pale skin, acrocyanosis, hypopnoea; breathing rate is 80/min; over the whole pulmonary surface there is vesiculotympanic (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

23. A 15-year-old boy has developed pain in the area of his left knee joint. Objectively: thigh soft tissues in the painful area are infiltrated, joint function is reduced. X-ray: there is a focus of destruction in the left distal femoral metaphysis, with periosteum detachment and formation of Codman triangle in the bone cortical layer at the margin of the defect. Chest X-ray reveals numerous microfocal metastases. What pathology is the most likely to cause such presentation?

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

24. 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?

- F. Pylorospasm
- G. Meningitis
- H. Pylorostenosis
- I. Microcephaly
- J. Craniostenosis



25. 10 days after birth an infant developed a sudden fever up to  $38,1^{\circ}\text{C}$ . Objectively: the skin of navel, abdomen and chest is erythematous; there are multiple pea-sized blisters with no infiltration at the base; single bright red moist erosions with epidermal fragments on the periphery. What is your provisional diagnosis?
- Epidemic pemphigus of newborn
  - Syphilitic pemphigus
  - Streptococcal impetigo
  - Vulgar impetigo
  - Atopic dermatitis
26. A 4-month-old child was admitted to a surgical department 8 hours after the first attack of anxiety. The attacks happen every 10 minutes and last for 2-3 minutes, vomiting occurred once. Objectively: the child's condition is grave. Abdomen is soft, palpation reveals a tumour-like formation in the right iliac area. After rectal examination the doctor's finger was stained with blood. What is the most probable diagnosis?
- Ileocecal invagination
  - Gastrointestinal haemorrhage
  - Wilm's tumour
  - Helminthic invasion
  - Pylorostenosis
27. 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 -  $2,3 \cdot 10^{12}/\text{l}$ , Hb- 60 g/l, platelets -  $40 \cdot 10^9/\text{l}$ , leukocytes -  $32,8 \cdot 10^9/\text{l}$ , 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?
- Myelogram
  - Lymph nodes biopsy
  - US of abdominal cavity
  - Detection of hepatitis markers
  - Investigation of platelets dynamic functions
28. A child from primipregnancy was born in a term labor and has body weight of 4000 g and body length of 57 cm. When born, he was nonresponsive to examination. Diagnosis is diffuse. Heart rate is 80/min. What resuscitation measures should be prescribed?
- Begin ALV with mask
  - Introduce 100% oxygen
  - Intubate and begin ALV
  - Tactile stimulation
  - Administer naloxone
29. 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 the most informative for determining diagnosis?
- Echocardiography
  - Electrocardiography
  - X-ray
  - Phonocardiography
  - Rheography
30. 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

31. A 6-year-old girl attended a general practitioner with her mother. The child complains of burning pain and itching in her external genitalia. The girl was taking antibiotics the day before due to her suffering from acute bronchitis. On examination: external genitalia are swollen, hyperemic, there is white deposit accumulated in the folds. The most likely diagnosis is:

- A. Candidal vulvovaginitis
- B. Trichomoniasis
- C. Nonspecific vulvitis
- D. Helminthic invasion
- E. Herpes vulvitis

32. 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

33. 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

34. 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

35. An 8-year-old child was hospitalized for fever up to 39,8°C, inertness, moderate headache, vomiting. Examination revealed meningeal symptoms. Lumbar puncture was performed. The obtained fluid had raised opening pressure, it was transparent, with the cell count of 450 cells per 1 mL (mainly lymphocytes - 90%), glucose level of 2,6 mmol/L.

What causative agent might have caused the disease in the child?

- A. Enterovirus
- B. Meningococcus
- C. Koch's bacillus
- D. Staphylococcus
- E. Pneumococcus

36. A 12-year-old girl complains of general weakness, rise of body temperature up to  $38,2^{\circ}\text{C}$ , 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

37. 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 cytolysis occurs. The most likely diagnosis is:

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

38. A 7-year-old child became ill again 2 weeks after he had tonsillitis. There are the following complaints: temperature rise up to  $38^{\circ}\text{C}$ , 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

39. 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 antibacterial drug should be prescribed to prevent infective endocarditis?

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

## KROK 2016

1. An 8-year-old boy developed a temperature of  $37,5^{\circ}\text{C}$  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

2. 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 50 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

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. 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 developed puffy face, soft tissues pastosity, bradycardia, constipations. Skin pallor and gland density progressed, the skin developed a waxen hue. What disease can be suspected?

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

5. In a maternity hospital a newborn had been presenting with cough attacks after eating. The child was discharged from the hospital on the 18th day due to a case of pneumonia. During the further 1,5 months the child had 2 cases of pneumonia. Periodically there are cough attacks after eating, especially if the child lies on the left side. Objectively: the II degree hypotrophy, isolated moist crackles, dyspnea. Stool and diuresis are not disrupted. What diagnosis is most likely?

- A. Tracheoesophageal fistula
- B. Mucoviscidosis
- C. Posthypoxic encephalopathy
- D. Hernia of the esophageal opening
- E. Tracheobronchomalacia

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. After a case of purulent otitis a 1-year-old boy has developed pains in the upper third of the left thigh, body temperature up to 39°C. Objectively: swelling of the thigh in its upper third and smoothed out inguinal fold. The limb is in semiflexed position. Active and passive movements are impossible due to severe pain. What diagnosis is most likely?

- A. Acute hematogenous osteomyelitis
- B. Acute coxitis
- C. Intermuscular phlegmon
- D. Osteosarcoma
- E. Brodie's abscess

8. A child is 1 month 10 days old. "Gushing" vomiting has been observed since the age of 3 weeks. The vomit volume exceeds the volume of the previous feeding. Objectively: the child is inert. Skin elasticity and tissue turgor are decreased. Hour-glass deformity sign is positive. The preliminary diagnosis is pyloric stenosis. What treatment tactics should be chosen?

- A. Surgery
- B. Prescription of Cerucal (Metoclopramide)

- C. Atropinization
- D. Internal administration of Novocaine
- E. Prescription of Pipolphen

9. A 16-year-old adolescent has been hospitalized with complaints of unceasing nasal hemorrhage and unbearable pain in his right elbow joint. Objectively: the large joint is enlarged and defigured, the skin over the joint is hyperemic. Arthropathy signs can be observed in the other joints. Ps- 90/min. Blood test: erythrocytes -  $3,9 \cdot 10^{12}/l$ , Hb- 130 g/l, color index - 1,0, leukocytes -  $5,6 \cdot 10^9/l$ , platelets -  $220 \cdot 10^9/l$ , ESR- 6 mm/hour. Lee-White coagulation time: start- 24<sup>1</sup>, end27<sup>1</sup>10<sup>11</sup>. What drug would be most efficient in the treatment of this patient?

- A. Cryoprecipitate
- B. Calcium chloride
- C. Concentrated red cells
- D. Aminocapronic acid
- E. Vicasol (Menadione)

10. A 9-month-old child presents with fever, cough, dyspnea. The symptoms appeared 5 days ago after a contact with a person suffering from URTI. Objectively: the child is in grave condition. Temperature of 38°C, cyanosis of nasolabial triangle is present. Respiration rate - 54/min., nasal flaring during 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 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

11. A child is 10 years old. The weight is 46 kg. Since birth the child has been gaining excessive weight. The parents are full-bodied. The child has undergone the following tests: carbohydrate tolerance, level of 17-ketosteroids, blood electrolytes, US of adrenal glands, cranium X-ray. The tests revealed no pathologies. The diagnosis of exogenous constitutive obesity has been made. What direction of therapy should be prioritized?

- A. Reducing diet and exercise
- B. Sanatorium-and-spa treatment
- C. Anorectic drugs
- D. Dehydration therapy
- E. "Fat-burning" methods

12. An 8-year-old child with a 3-year history of diabetes was hospitalized in hyperglycemic coma. Specify the initial dose of insulin to be administered:

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

13. Mother of a newborn suffers from chronic pyelonephritis; she had a case of URTI before the delivery. The delivery is at term, for a long period waters were not breaking. On the 2nd day of life the child developed an erythematous rash, later the rash developed into blisters approximately 1 cm in diameter filled with serous purulent substance. Nikolsky's symptom is positive. After the blisters had been lanced, erosions developed in their place. The child is inert. The child's body temperature is subfebrile. What diagnosis is most likely?

- A. Impetigo neonatorum
- B. Vesiculopustulosis
- C. Pseudofurunculosis
- D. Sepsis
- E. Ritter's disease

14. A 6-year-old child complains of frequent liquid stool and vomiting. On the 2nd day of disease the child presented with inertness, temperature rise up to  $38,2^{\circ}\text{C}$ , Ps- 150/min., scaphoid abdomen, palpatory painful sigmoid colon, defecation 10 times a day with liquid, scarce stool with mucus and streaks of green. What is the provisional diagnosis?

- B. Shigellosis
- C. Salmonellosis
- D. Escherichiosis
- E. Intestinalamebiasis
- F. Yersiniosis

15. An 8-year-old girl periodically has sudden short-term heart pains, sensation of chest compression, epigastric pain, dizziness, vomiting. Objectively: the patient is pale, respiratory rate - 40/min., jugular pulse is present. Ps- 185/min., 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

16. 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's syndrome
- D. Sheehan syndrome
- E. Cushing's disease

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

- F. To avoid allergenic food
- G. To avoid body tempering procedures
- H. To avoid sports
- I. To avoid spa treatment
- J. To avoid going to the seaside

18. 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

19. 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**

- 20.** A 3-month-old girl has rhinitis, dyspnea, dry cough. She has been sick for 2 days. Objectively: pale skin, acrocyanosis, hypopnoea; breathing rate is 80/min.; over the whole pulmonary surface there is vesiculotympanic (bandbox) resonance observed with numerous bubbling crackles. The most likely diagnosis is:
- A.** Acute bronchiolitis
  - B.** Pneumonia
  - C.** Mucoviscidosis
  - D.** Foreign body in airways
  - E.** Acute bronchitis
- 21.** 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
- 22.** A 4-month-old child was admitted to a surgical department 8 hours after the first attack of anxiety. The attacks happen every 10 minutes and last for 2-3 minutes, vomiting occurred once. Objectively: the child's condition is grave. Abdomen is soft, palpation reveals a tumor-like formation in the right iliac area. After rectal examination the doctor's finger was stained with blood. What is the most probable diagnosis?
- A.** Ileocecal invagination
  - B.** Gastrointestinal haemorrhage
  - C.** Wilm's tumour
  - D.** Helminthic invasion
  - E.** Pylorostenosis
- 23.** A 5-year-old child has body temperature increased 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 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
- 24.** A child from primipregnancy was born in a term labor and has body weight of 4000 g and body length of 57 cm. When born, he was nonresponsive to examination. Diagnosis is diffuse. Heart rate is 80/min. What resuscitation measures should be taken?
- A.** Begin ALV with mask
  - B.** Introduce 100% oxygen
  - C.** Intubate and begin ALV
  - D.** Tactile stimulation
  - E.** Administer naloxone
- 25.** 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?
- Echocardiography
  - Electrocardiography
  - X-ray
  - Phonocardiography
  - Rheography
26. A 6-year-old girl attended a general practitioner with her mother. The child complains of burning pain and itching in her external genitalia. The girl was taking antibiotics the day before due to her suffering from acute bronchitis. On examination: external genitalia are swollen, hyperemic, there is white deposit accumulated in the folds. The most likely diagnosis is:
- Candidal vulvovaginitis
  - Trichomoniasis
  - Nonspecific vulvitis
  - Helminthic invasion
  - Herpes vulvitis
27. 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?
- Paroxysmal atrial tachycardia
  - Atrial hypertrophy
  - Ventricular hypertrophy
  - WPW syndrome
  - Extrasystole
28. 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 study is required to specify the diagnosis?
- Excretory urography
  - Micturating cystography
  - Retrograde urography
  - Doppler study of renal vessels
  - Radioisotope renal scan
29. 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?
- Hyperactivity of renin-angiotensin system
  - Disruption of water-electrolytic balance
  - Disruption of renal circulation
  - Hypersympathicotonia
  - Increased cortisol level
30. An 8-year-old boy has a 2-year history of blotchy itchy rash appearing after eating citrus fruit. The first eruption occurred at the age of 6 months after the introduction of juices to the baby's diet. Father has a history of bronchial asthma, mother - that of allergic rhinitis. What is the most likely diagnosis?
- Atopic dermatitis
  - Psoriasis
  - Pityriasis Rosea
  - Urticaria
  - Quincke's edema

31. An 8-year-old child was hospitalized for fever up to  $39,8^{\circ}\text{C}$ , inertness, moderate headache, vomiting. Examination revealed meningeal symptoms. Lumbar puncture was performed. The obtained fluid had raised opening pressure, it was transparent, with the cell count of 450 cells per 1 ml (mainly lymphocytes - 90%), glucose level of 2,6 mmol/l. What causative agent might have caused the disease in the child?
- Enterovirus
  - Meningococcus
  - Koch's bacillus
  - Staphylococcus
  - Pneumococcus
32. A 7-year-old child became ill again 2 weeks after a case of tonsillitis. There are the following complaints: temperature rise up to  $38^{\circ}\text{C}$ , 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/hour. 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?
- Vessel wall damage caused by immune complexes
  - Platelet dysfunction
  - Suppression of hematopoietic stem cells
  - Decrease of adhesive-aggregative function of platelets
  - Vessel wall damage caused by bacteria
33. A 4-month-old boy has been undergoing in-patient treatment for pneumocystic pneumonia for 4 weeks. The diagnosis has been made based on clinical signs, typical X-ray presentation, presence of severe hypoxemia, positive dynamics caused by intravenous introduction of Bisepitol (Co-trimoxazole). Anamnesis states that enzyme-linked immunosorbent assay (ELISA) detected antibodies to HIV in the umbilical blood. Polymerase chain reaction (PCR) was performed on the child at the ages of 1 month and 3 months, and proviral DNA was detected in the child's blood. Viral load and number of CD4+lymphocytes was not measured. Make the diagnosis:
- HIV/AIDS
  - Infectious mononucleosis
  - Pneumonia
  - Tuberculosis
  - Adenovirus infection
34. A 5-year-old girl was hospitalized with complaints of pain and swelling in the right knee joint, temperature rise up to  $38,4^{\circ}\text{C}$  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:
- Augmentin
  - Methotrexate
  - Metypred (Methylprednisolone)
  - Diclofenac sodium
  - Captopril
35. During medical examination of a group of children under 4 years carried out by a pediatric team in one of the African countries a set of similar pathological signs was detected in some of the children. The signs are as follows: growth inhibition, mental changes, muscle atrophy, swellings, changes in hair and skin pigmentation. These children were diagnosed with kwashiorkor. What food products should be added to the diet to treat this disorder?
- Fish, vegetables, cereals
  - Milk, meat, vegetables
  - Vegetables, fruit
  - Cereals, fruit, berries
  - Poultry, fruit, berries
36. An 8-year-old girl was diagnosed with signs of Morgagni-Adams-Stokes disease that developed against the background of the III degree atrioventricular heart block. What drug should be introduced intravenously for emergency aid?

- A. Atropine
- B. Prednisolone
- C. Dobutamine
- D. Digoxin
- E. Potassium chloride

37. 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 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

#### KROK 2017

1. An 8-year-old boy developed a temperature of  $37,5^{\circ}C$  two days after his recovery from the case of URTI. He complains of suffocation, heart pain. Objectively: the skin is pale, tachycardia, the 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
2. A 9-year-old boy has been suffering from multiple bronchiectasis since he was 3 years old. Exacerbations occur frequently (3-4 times a year), after conservative therapy there are short remission periods. The disease progresses, the child is physically underdeveloped, presents with pale skin, acrocyanosis, deformed nail plates in the shape of "clock-face". Bronchography reveals saccular bronchiectases in the lower lobe of the right lung. What further treatment tactics should be chosen?
- A. Surgical intervention
  - B. Continuation of conservative therapy
  - C. Physiotherapy
  - D. Sanatorium-and-spa treatment
  - E. Physical training
3. 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 50 cm. Objectively: the skin is flabby, the layer of subcutaneous fat is thin, hypomyotonia is observed, neonatal reflexes are weak. The internal organs are without pathologic alterations. This newborn can be assessed 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
4. After a case of purulent otitis a 1-year-old boy has developed pain in the upper third of the left thigh, body temperature up to 39°C. Objectively: swelling of the thigh in its upper third and smoothed out inguinal fold. The limb is in semiflexed position. Active and passive movements are impossible due to severe pain. What diagnosis is the most likely?
- A. Acute hematogenous osteomyelitis
  - B. Acute coxitis
  - C. Intermuscular phlegmon
  - D. Osteosarcoma
  - E. Brodie's abscess
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 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?
- A. Pneumonia
  - B. URTI
  - C. Acute laryngotracheitis
  - D. Acute bronchitis
  - E. Acute bronchiolitis
7. 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?
- A. Mucoviscidosis (Cystic fibrosis)
  - B. Acute obstructive bronchitis
  - C. Recurrent obstructive bronchitis
  - D. Pertussis
  - E. Acute obstructive pneumonia
8. A boy was born at 32 weeks of gestation. 2 hours after the birth he developed respiratory distress (RD). The RD severity assessed by Silverman score was 5. The respiratory disorders progressed, respiratory failure could not be eliminated by Martin-Bouyer CPAP (continuous positive airway pressure). X-ray of lungs shows reticular and nodular pattern, air bronchogram. What is the most likely cause of respiratory distress syndrome?
- A. Hyaline membrane disease
  - B. Segmental atelectasis
  - C. Bronchopulmonary dysplasia
  - D. Congenital pulmonary emphysema

**E. Edematous hemorrhagic syndrome**

**9.** An 8-year-old child with a 3-year-long history of diabetes was hospitalized in hyperglycemic coma. Specify the initial dose of insulin to be administered:

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

**10.** A 17-year-old young man complains of general weakness, trismus, twitching of the muscles in his left shin. 7 days ago he pierced his foot with a nail. Objectively: at the sole of the foot there is a wound, 0,3x0,2 mm in size, with small amount of serous-purulent discharge, the skin around the wound is hyperemic. What is the most likely diagnosis?

- A.** Tetanus
- B.** Phlegmon
- C.** Osteomyelitis
- D.** Infected wound
- E.** Erysipelas

**11.** An infant is 3 weeks old. Since birth there has been observed periodical vomiting within a few minutes after feeding. The amount of vomitive masses does not exceed the volume of previous feeding. The infant has age-appropriate body weight. What is the most likely cause of this symptom?

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

**12.** 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.** Prenatal infection

**13.** From urine of a 14-year-old boy with the exacerbation of secondary obstructive pyelonephritis *Pseudomonas aeruginosa* was isolated with a titer of 1000000 microbes per 1 ml. What antibiotic is the most advisable in this case?

- A.** Ciprofloxacin
- B.** Ampicillin
- C.** Cefazolinum
- D.** Azithromycin
- E.** Chloramphenicol

**14.** 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

**15.** 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

16. A 9-year-old girl complains of fever up to  $37,5^{\circ}\text{C}$ , 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. Zymnysky test (measurement of daily diuresis)
- D. Complete blood count
- E. Clinical urine analyses, dynamic testing

17. 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 hypothermia. 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

18. Posture of an 11-year-old boy was determined during preventive examination. The child presents with curled forward rounded shoulders, the head is bowed forward, the thorax is flattened, the stomach is bulging. In the vertebral column there are deepened cervical and lumbar flexures. What posture does the child have?

- A. Kyphosis
- B. Lordosis
- C. Stooping
- D. Corrected
- E. Normal

19. The left hand of a newborn is extended in all its joints, stretched along the torso, and pronated in the forearm. Active movements of the shoulder joint are retained. The hand is flattened, atrophied, cold to touch, hangs passively. Grasping and Babkin's reflexes are absent at the affected side. Hemogram indicators are normal. Make the most likely diagnosis:

- A. Inferior distal obstetrical paralysis
- B. Osteomyelitis
- C. Proximal obstetrical paralysis
- D. Complete obstetrical paralysis
- E. Hypoxic-ischemic encephalopathy

20. A 14-year-old girl has been delivered to a gynecological department with complaints of profuse blood discharge from her genital tract for 2 weeks. Anamnesis: menstruation since 13, irregular, painful, profuse; the last one was 2 months ago. Objectively: pale skin and mucosa, BP-100/60 mm Hg, Hb- 108 g/l. The abdomen is soft and painless on palpation. Rectal examination revealed no pathologies of reproductive organs. What condition is it?

- A. Juvenile uterine hemorrhage (Dysfunctional)
- B. Hypomenstrual syndrome
- C. Inflammation of uterine appendages (Pelvic inflammatory disease)
- D. Pelviperitonitis
- E. Endometritis

21. An infant cries during urination, the foreskin swells and urine is excreted in drops. What

approach to treatment should be chosen?

- A. Create an opening into the foreskin cavity
- B. Prescription of  $\alpha$ -adrenergic blocking agents
- C. Prescription of antispasmodic agents
- D. Urinary bladder catheterization
- E. Epicystostomy

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 alterations of 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 14-year-old patient complains of alopecia foci on his scalp. The patient has been presenting with this condition for 2 weeks. Objectively: on the scalp there are several small oval foci with blurred margins. The skin in the foci is pink-red, the hairs are broken off at 4-5 mm length or at skin level. Under Wood's lamp there are no foci of green luminescence detected. What disease is it?

- A. Trichophytosis capitis
- B. Syphilitic alopecia
- C. Alopecia areata
- D. Scleroderma
- E. Psoriasis

24. 10 days after birth a newborn developed sudden fever up to 38,1°C. Objectively: the skin in the region of navel, abdomen and chest is erythematous; there are multiple pea-sized blisters with no infiltration at the base; isolated bright red moist erosions with epidermal fragments are observed on the periphery. What is the provisional diagnosis?

- A. Epidemic pemphigus of newborn
- B. Syphilitic pemphigus
- C. Streptococcal impetigo
- D. Vulgar impetigo
- E. Atopic dermatitis

25. 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

26. 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

27. 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

the most informative for determining diagnosis?

- F. Echocardiography
- G. Electrocardiography
- H. X-ray
- I. Phonocardiography
- J. Rheography

28. A 6-year-old girl came to a general practitioner with her mother. The child complains of burning pain and itching in her external genitalia. The girl was taking antibiotics the day before due to her suffering from acute bronchitis. On examination: external genitalia are swollen, hyperemic, there is white deposit accumulated in the folds. The most likely diagnosis is:

- A. Candidal vulvovaginitis
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- D. Helminthic invasion
- E. Herpes vulvitis

29. 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 alterations. What pathology does this child have?

- A. Paroxysmal atrial tachycardia
- B. Atrial hypertrophy
- C. Ventricular hypertrophy
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30. 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. Disturbance of water-electrolytic balance
- C. Disturbance of renal circulation
- D. Hypersympathicotonia
- E. Increased cortisol level

31. 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

32. An 9-year-old child was hospitalized for fever up to 39,8°C, inertness, moderate headache, vomiting. Examination revealed meningeal symptoms. Lumbar puncture was performed. The obtained fluid was characterized by increased opening pressure, was transparent, with the cell count of 450 cells per 1 mL (mainly lymphocytes - 90%), glucose level of 3,6 mmol/l. What agent could have caused the disease in the child?

- A. Enterovirus
- B. *Neisseria meningitidis*



- C. *Mycobacterium tuberculosis*
- D. *Staphylococcus aureus*
- E. *Streptococcus pneumoniae*

33. 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 will you make?
- A. Pseudofurunculosis
  - B. Pemphigus
  - C. Vesiculopustulosis
  - D. Scalp phlegmon
  - E. -
34. During examination of a healthy infant, the child takes a toy into his hands, turns from the back to the side; when lying on the stomach he can firmly prop himself up on his forearms; the child laughs and makes joyful exclamations. The age of the child is:
- A. 4 months
  - B. 2 months
  - C. 5 months
  - D. 1 month
  - E. 6 months
35. 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
36. 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 cardiotrophic drugs twice a year
  - C. Year-round bicillin prophylaxis for 3 years
  - D. Tonsillectomy
  - E. Oral cavity sanitation
37. 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)
38. A 14-year-old girl came to a general practitioner with complaints of weakness, loss of appetite, headache, rapid fatigability. Her last menstruation was profuse and lasted for 14 days after 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

39. 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 on 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

## 2018

1. 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

2. 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 had returned home, his parents noticed that the tips of his fingers and toes were white and their sensitivity was lost. The affected areas are warming up, the fingers are tingling and in pain. Skin pallor changed into redness, tingling stopped, slight 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

3. . 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

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. 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 50 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 assessed as a:

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

7. . A 16-year-old adolescent living in a rural area has been bitten in the shin by a stray dog. The wound is superficial. Regular vaccination against tetanus was received 3 months ago. What treatment tactics would be the most advisable in this case?

- A. Antirabies vaccination
- B. Antirabies immunoglobulin
- C. Tetanus toxoid adsorbed
- D. Antitetanus serum
- E. Antitetanus immunoglobulin

8. 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. Septic shock
- B. Neurotoxicosis
- C. Exicosis
- D. Encephalic syndrome
- E. Acute renal failure

9. . 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

10. 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

11. . 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

12. 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

13. 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?

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

14. 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

15. 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

16. An infant is 2.5 months old. The onset of the disease was gradual, the child had normal body temperature but presented with slight cough. Within a week the cough intensified, especially at night; on the 12th day the child developed cough fits occurring up to 20 times per day and followed by vomiting. There was one instance of respiratory arrest. Make the diagnosis:

- A. Pertussis
- B. Parainfluenza
- C. Congenital stridor

D. Respiratory syncytial infection

E. Adenovirus infection

17. A 14-year-old boy presents with moderate bronchial asthma in its exacerbation period. What drug should be prescribed to stop an acute attack of expiratory dyspnea?

A. Salbutamol

B. Cromolyn sodium (Cromoglicic acid)

C. Dexamethasone

D. Lasolvan (Ambroxol)

E. Strophanthine (cardiac glycosides)

18. 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. Prenatal infection

19. 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

20. 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

21. A 9-year-old girl complains of fever up to 38.5°C, headache, inertness, weakness, loss of appetite, stomachache, and frequent painful urination. Provisional diagnosis of acute pyelonephritis is made. Clinical urine analysis: specific gravity - 1016, no protein, leukocytes - 10-15 in the vision field. What investigation method can verify the diagnosis of urinary tract infection?

- A. Bacteriological inoculation of urine
- B. Rehberg test (creatinine clearance test)
- C. Zymnitsky test (density measurement of daily diuresis)
- D. Complete blood count
- E. Clinical urine analyses, dynamic testing

22. A newborn has Apgar score of 9. When should the 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

23. . A 3-day-old infant with hyperbilirubinemia (428 μmol/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 settingsun 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

24. A 15-year-old adolescent girl came to the gynecologist with complaints of painful menstruations that are accompanied by nausea, vomiting, and dizziness. Her menarche was at 12. Menstruations became painful since she was 14, remain regular. What treatment should be prescribed in this case?

- A. Analgesics, antispasmodics, antiprostaglandine therapy
- B. Antiinflammatory treatment only
- C. Antihemorrhagic agents
- D. Antiandrogen therapy



E. Vitamin supplements

25. A 3-year-old child presents with sharp deterioration of his general condition. He has a history of purulent otitis. His temperature is now 38.5°C. The left leg is pressed to the torso, active movements are absent, the lower third of the thigh and knee joint are thickened, hyperemic, with localized fever. Axial load leads to acute discomfort of the patient. What is the most likely diagnosis?

A. Epiphyseal osteomyelitis on the left

B. Left hip fracture

C. Rheumatoid arthritis

D. Osteogenic sarcoma

E. Hygroma of the knee

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

A. Lactase deficiency

B. Intestinal lambliasis (Giardiasis)

C. Infectious enteritis

D. Drug-induced enteritis

E. Functional dyspepsia

27. . During regular examination of a 2-year-old boy, he presents with enlarged left kidney, painless on palpation. The right kidney was undetectable on palpation. Excretory urography shows no contrast on the right. Cystoscopy detected hemiatrophy of the urinary bladder trigone, the right ureteral orifice is not detected. What pathology is it?

A. Agenesis of the right kidney

B. Dystopia of the right kidney

C. Hypoplasia of the right kidney

D. Agenesis of the right ureter

E. Ectopic right ureteral orifice

28. . 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 (bone marrow biopsy)
- B. Lymph nodes biopsy
- C. Abdominal US
- D. Detection of hepatitis markers
- E. Analysis of dynamic platelet function

29. 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

30. 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

31. 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 (pericardial puncture)

- B. Cardiac glycosides intravenously
- C. Constant oxygenotherapy
- D. Diuretics intravenously
- E. Antibiotics intravenously

32. 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

33. . A 6-year-old girl arrived to the in-patient unit with complaints of enlargement of the lower third of her right thigh. According to the case history, she has been stepping carefully on her right leg and limping for 6 months. Blood test detected anemia. X-ray of the right thigh shows a round bone defect with clear margins resembling melting sugar in the distal metaphysis. What provisional diagnosis can be made in this case?

- A. Osteogenic sarcoma of the right femur
- B. Rheumatoid arthritis of the right knee joint
- C. Acute hematogenous osteomyelitis of the distal femoral metaphysis on the right
- D. Tuberculous osteitis of the distal femoral metaphysis on the right
- E. Giant cell tumor of the right femur

34. The mother of an epileptic son complains of her son periodically presenting with irritable depression, when he becomes excited and prone to physical aggression and violence. These moods last for 5-10 minutes, after which the patient exhausts himself and falls asleep. Upon waking he is depressed, sad, cannot recall his actions or recalls them only partially. What psychopathologic condition is it?

- A. Dysphoria
- B. Dysthymia
- C. Epileptic delirium
- D. Pathologic affect

E. Ambulatory automatism

35. A 15-year-old girl suffers from systemic lupus erythematosus and has been receiving prednisolone therapy in the daily dosage of 2 mg/kg for the last 6 weeks. The plans are made to gradually lower the dosage of the medicine. No clinical signs of her disease are observed. Previously she has received no immunization against measles. Due to measles outbreak it is necessary to develop the immunity against this infection in the patient. When can she be vaccinated?

- A. At the present time
- B. After 2 weeks of prednisolone therapy in the dosage lower than 2 mg/kg/24 hours
- C. 1 month after the prednisolone therapy is complete
- D. Immediately after the prednisolone therapy is complete
- E. Never due to medical contraindications

36. A healthy child 1 year and 5 months of age is being vaccinated against hepatitis B. The child did not receive the first dose of the vaccine previously, while in the maternity hospital. The doctor makes an individual vaccination schedule for this child and plans the administration of the next dose of the vaccine. What is the minimum interval between doses of vaccine in this case?

- A. 1 month
- B. 6 months
- C. 2 months
- D. 3 months
- E. 12 months

37. 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 there was a case of cervical cancer that occurred to the patient's grandmother. 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

38. A 6-month-old infant is not vaccinated. The physician recommends a DPT (diphtheria, pertussis, tetanus) vaccination but the mother is absolutely against this procedure. Choose the most substantial argument in favor of vaccination:

- A. Risk of lethal consequences
- B. Epidemic risk for the others
- C. Personal professional experience
- D. High quality of vaccines
- E. –

39. Among first-year schoolchildren there was a case of measles registered. A 7-year-old boy from the same group was not vaccinated against measles due to refusal of his parents. His clinical history has no cases of measles in the past and is not contraindicatory to immunobiological agents. Choose the most rational tactics of measles prevention in this schoolboy:

- A. Measles-Mumps-Rubella vaccine
- B. Isolation for 20 days
- C. Antiviral agents
- D. Antibiotics
- E. Immunomodulators

## **Пульмонология**

1. 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?
  1. Doppler echocardiography
  2. Electrocardiography
  3. Chest X-ray
  4. Rheography of the pulmonary artery
  5. Ultrasound of the liver
  
2. 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?
  1. Stenosing laryngotracheobronchitis
  2. Acute pulmonary inflammation
  3. Bronchial asthma
  4. Acute bronchitis
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3. 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?

1. Mucoviscidosis (Cystic fibrosis)
2. Acute obstructive bronchitis
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4. A 14-year-old boy presents with moderate bronchial asthma in its exacerbation period. What drug should be prescribed to stop an acute attack of expiratory dyspnea?
  1. Salbutamol
  2. Cromolyn sodium (Cromoglicic acid)
  3. Dexamethasone
  4. Lasolvan (Ambroxol)
  5. Strophanthine (cardiac glycosides)

## **Кардиология**

1. 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:
  1. Heart failure with preserved ejection fraction
  2. Heart failure with reduced ejection fraction
  3. Primary pulmonary hypertension
  4. Essential hypertension
  5. Symptomatic arterial hypertension
  
2. 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?
  1. Reduced mobility of the joints in the morning
  2. Regional hyperemia of the joints
  3. Affection of the large joints
  4. Enlarged heart
  5. Increased heart rate
  
3. 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?
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4. 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?

1. Surgical
2. Conservative
3. Physical therapy
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5. Abstain from surgery in favor of complex conservative therapy

5. A 15-year-old girl suffers from systemic lupus erythematosus and has been receiving prednisolone therapy in the daily dosage of 2 mg/kg for the last 6 weeks. The plans are made to gradually lower the dosage of the medicine. No clinical signs of her disease are observed. Previously she has received no immunization against measles. Due to measles outbreak it is necessary to develop the immunity against this infection in the patient. When can she be vaccinated?

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3. 1 month after the prednisolone therapy is complete
4. Immediately after the prednisolone therapy is complete
5. Never due to medical contraindications

#### Поликлиника

1. 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?

1. Hypovitaminosis *D*

2. Hypovitaminosis *C*
3. Hypovitaminosis *B<sub>1</sub>*
4. Hypovitaminosis *B<sub>6</sub>*
5. Hypovitaminosis *A*

2. A 16-year-old adolescent living in a rural area has been bitten in the shin by a stray dog. The wound is superficial. Regular vaccination against tetanus was received 3 months ago. What treatment tactics would be the most advisable in this case?

1. Antirabies vaccination
2. Antirabies immunoglobulin
3. Tetanus toxoid adsorbed
4. Antitetanus serum
5. Antitetanus immunoglobulin

3. 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?

1. Septic shock
2. Neurotoxicosis
3. Exicosis
4. Encephalic syndrome
5. Acute renal failure

4. An infant is 2.5 months old. The onset of the disease was gradual, the child had normal body temperature but presented with slight cough. Within a week the cough intensified, especially at night; on the 12th day the child developed cough fits occurring up to 20 times per day and followed by vomiting. There was one instance of respiratory arrest. Make the diagnosis:

1. Pertussis
2. Parainfluenza

3. Congenital stridor
4. Respiratory syncytial infection
5. Adenovirus infection

5. A 6-month-old infant is not vaccinated. The physician recommends a DPT (diphtheria, pertussis, tetanus) vaccination but the mother is absolutely against this procedure. Choose the most substantial argument in favor of vaccination:

1. Risk of lethal consequences
2. Epidemic risk for the others
3. Personal professional experience
4. High quality of vaccines
5. -

#### Эндокринология

1. 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:

2. Endocrine disorders
3. Acceleration
4. Certain components of her diet
5. Sports training
6. Deficient hygienic education

2. 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?

1. Testicular feminization syndrome
2. Mayer-Rokitansky-Kuster-Hauser syndrome
3. Cushing syndrome
4. Sheehan syndrome
5. Cushing disease

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?

4. Cortisol
5. Thyroxin
6. Testosterone
7. Insulin
8. Glucagon

#### Неонатология

1. 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 50 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 assessed as a:
  2. Full-term infant with intrauterine growth retardation
  3. Premature infant



4. Immature infant
5. Postmature infant
6. Full-term infant with normal body weight

2. 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?

1. Duchenne-Erb palsy, superior proximal type
2. Dejerine-Klumpke palsy, inferior distal type
3. Total obstetric palsy
4. Osteomyelitis of the right humerus
5. Poliomyelitis

3. 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:

1. Intracranial hemorrhage
2. Meningitis
3. Sepsis
4. Anemia
5. Prenatal infection

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

1. In the delivery room
2. After 12 hours
3. After 2 hours
4. On the 2nd day
5. On the 3rd day

5. A woman with blood group B(III) Rh(+) gave birth to a full-term healthy boy. Examination on the 3rd day of the infant's life shows him to have icteric tint to his skin. The child has no problems with suckling, sleep is nondisturbed. The abdomen is soft, the liver protrudes by 2 cm from under the costal margin. Complete blood count: hemoglobin - 200 g/L, erythrocytes -  $5.5 \cdot 10^{12}/L$ , total bilirubin - 62  $\mu\text{mol}/L$ , indirect bilirubin - 52  $\mu\text{mol}/L$ . What condition can be suspected?

1. Physiologic jaundice
2. Congenital hepatitis
3. Hemolytic disease of the newborn due to Rh incompatibility
4. Biliary atresia
5. Hemolytic disease of the newborn due to ABO incompatibility

6. 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 settingsun eye phenomenon. What is the most likely cause of such symptoms?

1. Bilirubin encephalopathy
2. Craniocerebral injury
3. Brain tumor
4. Hydrocephalus

## 5. Infantile cerebral paralysis

7. It is the 3rd day after the 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 by 3 fingers width below the navel. Lochia are sanguinoserous, moderate in volume. Assess the dynamics of uterine involution:

1. Physiological involution
2. Subinvolution
3. Lochiometra
4. Pathologic involution
5. Hematometra

8. On the 9th day after childbirth the obstetric patient developed high fever up to  $38^{\circ}\text{C}$ . She complains of pain in the right mammary gland. The examination revealed the following: a sharply painful infiltrate can be palpated in the right mammary gland, the skin over the infiltrate is red, subareolar area and nipple are swollen and painful. What is your diagnosis?

1. Abscess of the right mammary gland
2. Mastopathy
3. Cancer of the right mammary gland
4. Serous mastitis
5. Fibrous cystic degeneration of the right mammary gland

## Нефрология

1. 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?

2. Nephrotic
3. Nephritic
4. Isolated urinary
5. Hematuric
6. Mixed

2. A 9-year-old girl complains of fever up to  $38.5^{\circ}\text{C}$ , headache, inertness, weakness, loss of appetite, stomachache, and frequent painful urination. Provisional diagnosis of acute pyelonephritis is made. Clinical urine analysis: specific gravity - 1016, no protein, leukocytes - 10-15 in the vision field. What investigation method can verify the diagnosis of urinary tract infection?

1. Bacteriological inoculation of urine
2. Rehberg test (creatinine clearance test)
3. Zymnitsky test (density measurement of daily diuresis)
4. Complete blood count
5. Clinical urine analyses, dynamic testing

3. During regular examination of a 2-year-old boy, he presents with enlarged left kidney, painless on palpation. The right kidney was undetectable on palpation. Excretory urography shows no contrast on the right. Cystoscopy detected hemiatrophy of the urinary bladder trigone, the right ureteral orifice is not detected. What pathology is it?

1. Agenesis of the right kidney
2. Dystopia of the right kidney
3. Hypoplasia of the right kidney
4. Agenesis of the right ureter
5. Ectopic right ureteral orifice

4. 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:

1. Ascending
2. Descending
3. Hematogenic
4. Contact
5. Lymphogenic

#### Гастроэнтерология

1. A 5-year-old child that contacts with viral hepatitis in the kindergarten presents with increased body temperature up to  $38^{\circ}\text{C}$ , 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?

1. ALT activity in blood
2. Urine analysis for bile pigments
3. Feces analysis for stercobilin
4. Blood test for bilirubin
5. Thymol turbidity test

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

1. Lactase deficiency
2. Intestinal lamblia (Giardiasis)
3. Infectious enteritis
4. Drug-induced enteritis
5. Functional dyspepsia

#### Гематология

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 -  $2.3 \cdot 10^{12}/\text{L}$ , Hb- 60 g/L, platelets -  $40 \cdot 10^9/\text{L}$ , leukocytes -  $32.8 \cdot 10^9/\text{L}$ , 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?

1. Myelogram (bone marrow biopsy)
2. Lymph nodes biopsy

3. Abdominal US
4. Detection of hepatitis markers
5. Analysis of dynamic platelet function