

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

A. Rheumatism

B. Scarlet fever

**C. Hemorrhagic vasculitis (Henoch-Schonlein purpura)**

D. Hemorrhagic meningoencephalitis

E. Streptococcal impetigo

2. A 7-year-old boy suddenly developed pain and edema in his right knee. The day before, at school, he took part in cross-country skiing. There is no family history of hemophilia or susceptibility to bleeding. Objectively, his body temperature is 37.5°C. The knee is painful on palpation, hot to the touch, and has edema with local tissue tension above it. In complete blood count: Hb - 123 g/L, leukocytes -  $5.6 \times 10^9/L$ , platelets -  $354 \times 10^9/L$ , prothrombin time - 12 seconds (normal range is 10-15 seconds), activated partial thromboplastin time - 72 seconds (normal range is 35-45 seconds). Bleeding time is normal, the factor VIII levels constitute 5% of normal value. Make the diagnosis:

A. Henoch-Schoenlein purpura

B. Vitamin K deficiency

**C. Hemophilia A**

D. Hemophilia B

E. Thrombocytopenia

3. When examining blood coagulation system of a man before a surgery, he was found to have a deficiency of factor VIII - antihemophilic globulin A). What disease is it?

A. Hemorrhagic vasculitis

B. Hemophilia B

C. Hemophilia C

D. Hemorrhagic angiomatosis

**E. Hemophilia A**

4. On the fourth day of life, a healthy newborn child developed melena and started vomiting blood. Coagulogram reveals prolonged prothrombin time, decreased prothrombin index, and deficiency of plasma factors II, VII, IX, and X. What is the most likely disease in this case?

A. Hemophilia A

B. Hemolytic disease of the newborn

**C. Hemorrhagic disease of the newborn**

D. Disseminated intravascular coagulation syndrome

E. Neonatal sepsis

5. An ambulance was called to a 45-year-old man. According to his family, the onset of the disease was sudden, after he returned from a ski resort. His body temperature increased up to 38.7°C, he developed headache and vomiting. Objectively, his skin is pale with a cyanotic tint, there is a thick hemorrhagic rash all over the body, sometimes with necrosis in the center. Blood pressure is 45/0 mm Hg, pulse is 126/min., low volume. The patient has marked nuchal rigidity and positive Kernig's sign. Make the provisional diagnosis:

A. Typhus

B. Vesicular rickettsiosis

**C. Meningococcal infection**

D. Influenza

E. Poliomyelitis

6. A 23-year-old woman complains of an increase in body temperature to 37.4°C, a hemorrhagic rash that appeared on her legs, lumbar pain, and red urine. She fell ill 3 days ago after an overexposure to cold. Objectively, her skin is pale, there is a fine symmetrical hemorrhagic rash on the surface of her lower legs and thighs. Heart rate - 90/min., blood pressure - 115/90 mm Hg. The sign of costovertebral angle tenderness (Pasternatski's sign) is mildly positive on both sides. Blood test: leukocytes -  $9.6 \times 10^9/L$ , platelets -  $180 \times 10^9/L$ , ESR - 31 mm/hour. Urinalysis: protein - 0.33 g/L, changed erythrocytes - 3-40 in sight, leukocytes - 5-8 in sight. What is the most likely diagnosis in this case?

A. Polyarteritis nodosa

**B. Hemorrhagic vasculitis**

- C. Acute interstitial nephritis
- D. Thrombocytopenic purpura
- E. Systemic lupus erythematosus

7. A 40-year-old patient has acute onset of disease caused by overexposure to cold. Temperature has increased up to 39°C. Foul-smelling sputum is expectorated during coughing. Various moist crackles can be auscultated above the 3rd segment on the right. Blood test: leukocytes -  $15,0 \times 10^9/l$ , stab neutrophils - 12%, ESR- 52 mm/hour. On X-ray: in the 3rd segment on the right there is a focus of shadow 3 cm in diameter, low density, with fuzzy smooth margins and a clearing in its center. What disease is most likely in the given case?

- A. Peripheral pulmonary cancer
- B. Pulmonary cyst
- C. Cystic echinococcosis
- D. Pneumonia complicated by an abscess**
- E. Infiltrative tuberculosis

8. A 9-year-old boy is in a severe condition. His body temperature is 38-39°C, he has nosebleeds and complains of pain in his bones. Objectively, the boy presents with acute pallor, hemorrhagic rash, and ulcerative necrotizing stomatitis. All the groups of lymph nodes are enlarged. The liver is +5 cm. The spleen is +4 cm. What test will be decisive for diagnosis-making in this case?

- A. X-ray of the mediastinum
- B. Myelogram**
- C. Immune complex testing
- D. Abdominal ultrasound
- E. Complete blood count

9. For the past 6 years a 37-year-old woman has been experiencing frequent nosebleeds, severe metrorrhagias, and periodic bruising on her skin. 10 days ago, after a severe nosebleed, her weakness intensified, she developed dizziness and palpitations. Objectively, her skin is pale, there are multiple petechiae and isolated ecchymoses on the anterior surface of her torso, legs, and arms. In the blood: Hb - 80 g/L, erythrocytes -  $4.0 \cdot 10^{12}/L$ , color

index - 0.7; leukocytes -  $5.3 \times 10^9/L$ ; band neutrophils - 2%, segmented neutrophils - 65%, eosinophils - 2%, lymphocytes - 24%, monocytes - 5%, platelets -  $10 \times 10^9/L$ , ESR - 15 mm/hour. Make the diagnosis:

- A. Iron deficiency anemia
- B. Hemorrhagic vasculitis
- C. Hemophilia
- D. Aplastic anemia
- E. Idiopathic thrombocytopenic purpura**

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

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

11. A 30-year-old man complains of petechial hemorrhages that suddenly appeared on the skin of his legs two days ago. Objectively, multiple hemorrhages in the form of asymmetrically located ecchymoses are observed on the skin of his thighs and lower legs. No changes were detected in the internal organs. Complete blood count: hemoglobin - 126 g/L, erythrocytes -  $3.9 \times 10^{12}/L$ , leukocytes -  $5.2 \times 10^9/L$ , platelets -  $15 \times 10^9/L$ . What is the most likely diagnosis in this case?

- A. Hemophilia A
- B. Meningococcemia
- C. Hemorrhagic vasculitis
- D. Idiopathic thrombocytopenic purpura**
- E. DIC syndrome

12. A 19-year-old young man has been hospitalized into the hematology department with complaints of pain in his right shoulder joint that occurred after the joint was bruised. It is known from the patient's history that such clinical presentations were observed repeatedly since his early childhood. Objectively, the joint is enlarged in volume and sharply painful to palpation. Blood test: erythrocytes -  $3.7 \times 10^{12}/L$ , Hb - 110 g/L, platelets -  $175 \times 10^9/L$ , leukocytes -  $6.9 \times 10^9/L$ , ESR - 25 mm/hour, prothrombin index - 90%, recalcification time - 280 min., blood coagulation time: beginning - 10 min., end - 38 min., activated partial thromboplastin time - 90 min., fibrinogen - 3.5 g/L. What is the most likely diagnosis in this case?

A. Thrombocytopathy

B. Hemorrhagic vasculitis

C. Autoimmune coagulopathy

**D. Hemophilia**

E. Autoimmune thrombocytopenia