


<p> ОҢТҮСТІК ҚАЗАҚСТАН MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ </p>		<p>  SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия» </p>
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CONTROL AND MEASURING INSTRUMENTS

Questions of the program for midterm control 1, 2


Title disciplines: "Blood and lymph in pathology"

Course code: KLP 3303

Name and code of the OP: 6B10115 "Medicine"

Amount of study hours/credits: 150/5


Course and semester of study: 3/6

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The control and measuring instruments have been developed in accordance with the working curriculum of the discipline (syllabus) and discussed at the department meeting

Protocol No. 10 dated "31" 05 2024.

Head of the Department, md, Professor E.K. Bekmurzayeva. Бекмурзаева

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Border control №1:

1. An assignment to demonstrate practical skills.

1. Questioning patients with anemic syndrome.
2. Questioning patients with hemorrhagic syndrome.
3. Questioning patients with thrombocytopenic syndrome.
4. General examination of patients with anemic syndrome.
5. General examination of patients with hemorrhagic syndrome.
6. General examination of patients with thrombocytopenic syndrome.
7. Technique and methods of palpation of lymph nodes
8. Technique and methods of palpation of the spleen
9. Technique and methods of percussion of the spleen
10. Laboratory research methods for anemic syndrome
11. Instrumental research methods in anemic syndrome
12. Laboratory research methods for hemorrhagic syndrome
13. Instrumental research methods for hemorrhagic syndrome
14. Laboratory research methods for thrombocytopenic syndrome
15. Instrumental research methods in thrombocytopenic syndrome

2. Defense of the educational medical history.

The form for filling out and defending is attached to the library collection of the department and the academy.

Border control №2:

OPTION 1

1. A 45-year-old woman consulted a doctor complaining of general weakness, rapid fatigue, shortness of breath during physical exertion, and frequent dizziness. Examination revealed pale skin, brittle nails, and dry hair. A general blood test showed hemoglobin – 85 g/l; red blood cells – $3.2 \times 10^{12}/l$, color index – 0.7. Your preliminary diagnosis:
 - A. hyperchromic B-12 deficiency anemia
 - B. hyperchromic folate deficiency anemia
 - C. myeloplastic syndrome
 - D. hypochromic iron deficiency anemia
 - E. sideropenic syndrome
2. A 62-year-old man, at a therapist's appointment, complains of constant fatigue, dizziness, loss of appetite, dry mouth. On examination: pale skin with a slight yellowness, a varnished tongue. A general blood test shows: hemoglobin 70 g / l, erythrocytes - $2.5 \times 10^{12} / l$, color index - 1.2; macrocytosis, hyperchromia. In the biochemical analysis: increased bilirubin levels. Your preliminary diagnosis:
 - A. autoimmune hemolytic anemia
 - B. megaloblastic anemia, vitamin B-12 deficiency
 - C. microcytic anemia
 - D. aplastic anemia
 - E. iron deficiency anemia
3. A 30-year-old woman consulted a doctor complaining of shortness of breath when walking, general weakness, and decreased performance. History: recently had a viral infection. On examination: pale skin, tachycardia up to 110 beats per minute. General blood test: hemoglobin 95 g/l, erythrocytes $2.9 \times 10^{12}/l$,

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reticulocytes 0.5. Bone marrow analysis: decreased number of erythroid cells. Your preliminary diagnosis:

- A. hemolytic anemia
- B. iron deficiency anemia
- C. aplastic anemia
- D. B-12 deficiency anemia
- E. microcytic anemia

4. A 40-year-old woman consulted a doctor complaining of general weakness, dizziness, shortness of breath during physical exertion, and brittle nails. Her medical history shows that she has heavy menstrual periods lasting more than 7 days. Blood test results: hemoglobin - 85 g/l; erythrocytes - $3.2 \times 10^{12}/l$; color index - 0.7; serum iron - 5 $\mu\text{mol}/l$. Specify the causes of anemia in this case:

- A. impaired absorption of iron in the stomach
- B. impaired absorption of ferritin in the stomach
- C. Vitamin B-12 deficiency anemia
- D. chronic blood loss due to heavy menstruation
- E. folate deficiency anemia

5. A 46-year-old woman consulted a doctor complaining of general weakness, dizziness, shortness of breath during physical exertion, hair loss, and brittle nails. Her medical history shows that she has heavy menstrual periods lasting more than 8 days. Blood test results: hemoglobin - 83 g/L; erythrocytes - $3.1 \times 10^{12}/L$; color index - 0.6; serum iron - 5 $\mu\text{mol}/L$. Your preliminary diagnosis:

- A. Vitamin B-12 deficiency anemia
- B. hemolytic anemia
- C. aplastic anemia
- D. folate deficiency anemia
- E. iron deficiency anemia

6. A 55-year-old man consulted a therapist complaining of constant fatigue, shortness of breath, and weight loss. Examination revealed pale skin and mucous membranes. History: chronic gastritis with low acidity. A complete blood count showed: hemoglobin - 88 g/l; red blood cells - $3.4 \times 10^{12}/l$; color index - 0.6; serum iron - 5 $\mu\text{mol}/l$; ferritin - 7 ng/ml. Name an additional informative research method:


- A. Ultrasound of the abdominal cavity
- B. fibrogastroscopy
- C. puncture of lymph nodes
- D. fecal occult blood test
- E. determination of serum iron in the blood

7. A 50-year-old man consulted a general practitioner complaining of constant fatigue, shortness of breath during exertion, and weight loss. Examination revealed pale skin and mucous membranes. History: chronic gastritis with low acidity. Complete blood count: hemoglobin - 84 g/l; red blood cells - $3.2 \times 10^{12}/l$; color index - 0.5; serum iron - 4 $\mu\text{mol}/l$; ferritin - 6 ng/ml. Your preliminary diagnosis:

- A. folate deficiency anemia
- B. aplastic anemia
- C. Vitamin B-12 deficiency anemia
- D. autoimmune hemolytic anemia
- E. iron deficiency anemia caused by impaired iron absorption

8. A 60-year-old man consulted a therapist complaining of constant fatigue, drowsiness, weight loss, dry skin, and loss of appetite. Examination revealed pale skin and mucous membranes and mild tachycardia. History: chronic gastritis with low acidity. Complete blood count: hemoglobin - 88 g/l; red blood cells - $3.2 \times 10^{12}/l$; color index - 0.65; serum iron - 4 $\mu\text{mol}/l$; ferritin - 6 ng/ml. Specify the causes of anemia in this case:

- A. aplastic anemia

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B. iron deficiency anemia

C. folate deficiency anemia

D. B-12 deficiency anemia

E. autoimmune hemolytic anemia

9. A 35-year-old man complains at a doctor's appointment about the appearance of a painful purple rash on his shins, pain in the knee and ankle joints, and blood in the urine. From the anamnesis: the disease began after a sore throat. On examination: purple rashes are symmetrically located in the lower extremities, the joints are swollen, painful when moving. Urinalysis: proteinuria, microhematuria. Your preliminary diagnosis:

A. aplastic anemia

B. acute leukemia

C. hemorrhagic vasculitis

D. chronic myelogenous leukemia

E. chronic lymphocytic leukemia

10. A 27-year-old woman was admitted to hospital complaining of blood in her urine, pain in the lumbar region, and a rash on her legs. History: the disease began acutely a week after bronchitis. Examination revealed a severe hemorrhagic rash on the skin of her shins. Urine analysis: proteinuria 2 g/l, hematuria. Blood creatinine is elevated. Specify a possible complication in this case:

A. acute heart failure

B. aplastic anemia

C. B-12 deficiency anemia

D. acute renal failure

E. autoimmune hemolytic anemia

11. A 40-year-old man consulted a doctor with complaints of severe swelling in the lower extremities, frequent purple rash, general weakness, and decreased daily diuresis. History: chronic tonsillitis. Blood tests: total blood protein decreased - 58 g/l; hypoalbuminemia, proteinuria - 4 g/l; hematuria. Your preliminary diagnosis:

A. aplastic anemia

B. chronic myelogenous leukemia

C. chronic lymphocytic leukemia

D. autoimmune hemolytic anemia

E. hemorrhagic vasculitis

12. A 35-year-old man was admitted to hospital with complaints of general weakness, shortness of breath, and fever. He had a viral infection 2 weeks before. Examination revealed pale skin, yellow sclera, and moderate tachycardia. Blood test results: hemoglobin 90 g/l; reticulocytes 20%; indirect bilirubin 70 $\mu\text{mol/l}$. Coombs test is positive. Your preliminary diagnosis:

A. aplastic anemia

B. autoimmune hemolytic anemia

C. chronic lymphocytic leukemia

D. chronic myelogenous leukemia

E. B-12 deficiency anemia

13. A 28-year-old man was admitted to hospital complaining of sudden weakness, shortness of breath, and palpitations. He had taken an antibiotic 2 weeks before. Examination revealed yellowness of the sclera and skin, and tachycardia. Blood test results: hemoglobin - 60 g/l; reticulocytes - 18%; total bilirubin - 55 $\mu\text{mol/l}$; indirect - 50 $\mu\text{mol/l}$; Coombs test - positive. What is the cause of this condition?

A. aplastic anemia

B. B-12 deficiency anemia

C. drug-induced autoimmune hemolytic anemia

D. chronic lymphocytic leukemia

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E. chronic myelogenous leukemia

14. A 35-year-old man came to see a therapist complaining of severe weakness, dizziness, shortness of breath during physical exertion, and the appearance of bruises on the body for no apparent reason. On examination: the skin is pale, there are multiple petechiae and ecchymoses on the skin. In the general blood test: hemoglobin - 70 g / l; leukocytes - $2.0 \times 10^9 / l$, platelets - $20 \times 10^9 / l$, reticulocytes - 0.5%. Your preliminary diagnosis:

- A. idiopathic thrombocytopenic purpura
- B. autoimmune hemolytic anemia
- C. B-12 deficiency anemia
- D. aplastic anemia
- E. chronic myelogenous leukemia

15. A 25-year-old woman consulted a doctor complaining of unexplained bruising, frequent nosebleeds, and increased bleeding from the gums. History: a viral infection 2 weeks ago. Examination revealed multiple petechiae and ecchymoses on the skin of the trunk and extremities. Blood pressure: 110/70 mmHg, heart rate: 76 beats per minute. Blood test: platelets: $20 \times 10^9 / l$, hemoglobin: 130 g/l, leukocytes $\times 10^9 / l$. Your preliminary diagnosis:

- A. aplastic anemia
- B. autoimmune hemolytic anemia
- C. B-12 deficiency anemia
- D. chronic myelogenous leukemia
- E. idiopathic thrombocytopenic purpura

16. Specify a characteristic laboratory sign for B12 deficiency anemia:

- A. thrombocytosis
- B. leukocytosis
- C. increase in erythrocyte sedimentation rate
- D. lymphocytosis
- E. high color index

17. The substrate of acute leukemia is:

- A. leukemic maturing cells
- B. mature leukemia cells
- C. leukemic blast cells
- D. immature leukemia cells
- E. plasma cells

18. Acute leukemia is a tumor originating from:


- A. hematopoietic tissue of lymph nodes
- B. reticuloendothelial tissue of the liver
- S. reticuloendothelial tissue of the spleen
- D. liver endothelial tissue
- E. bone marrow

19. Indicate the necessary factor for the absorption of vitamin B-12:

- A. hydrochloric acid
- V. gastrin
- C. pepsin
- D. gastromucoprotein
- E. folic acid

20. Name a common cause of anemia in acute leukemia:

- A. disturbance of leukocyte formation in bone marrow
- B. disturbance of red blood cell formation in bone marrow
- C. disturbance of erythropoietin production

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- D. iron malabsorption
- E. disorder of platelet formation in bone marrow

OPTION 2

1. A 44-year-old man's general blood test revealed the following changes: hemoglobin - 85 g/l, erythrocytes - 2.9×10^{12} /l, leukocytes - 3.7×10^9 /l, erythrocyte sedimentation rate - 52 mm/hour, platelets - 95×10^9 /l. The doctor referred him for further examination. Name an informative research method to clarify the diagnosis:

- A. gastric endoscopy
- B. sternal puncture
- C. puncture of lymph nodes
- D. fecal occult blood test
- E. determination of serum iron in the blood

2. A 47-year-old man was admitted to hospital with complaints of spontaneous hemorrhages on the skin, nosebleeds, and severe weakness. There is no history of chronic diseases. On examination: multiple ecchymoses on the lower extremities, small hemorrhages on the mucous membranes. Blood test: platelets - 11×10^9 /l, hemoglobin - 118 g/l, erythrocyte sedimentation rate - 16 mm/h; leukocytes - 4×10^9 /l. Specify an informative diagnostic method:

- A. endoscopic examination of the stomach
- B. puncture of lymph nodes
- C. bone marrow examination
- D. fecal occult blood test
- E. determination of ferritin in the blood

3. A 28-year-old man complains of decreased appetite, unsteadiness of gait, and general weakness at a doctor's appointment. Examination reveals pale skin and mucous membranes. Blood tests reveal hemoglobin 70 g/l, macrocytosis, Jolly bodies; erythrocytes 1.9×10^{12} /l, color index 1.3. Bone marrow reveals megaloblastic hematopoiesis. Your preliminary diagnosis:


- A. iron deficiency anemia
- B. acute leukemia
- C. chronic lymphocytic leukemia
- D. B-12 deficiency anemia
- E. hemolytic anemia

4. A 42-year-old woman consulted a doctor complaining of increased fatigue, dizziness, hair loss, and brittle nails. History: uterine fibroids and menorrhagia. Blood tests revealed: hemoglobin - 80 g/l, hypochromia, microerythrocytosis. Your preliminary diagnosis:

- A. B-12 deficiency anemia
- B. sickle cell anemia
- C. aplastic anemia
- D. hereditary spherocytosis
- E. iron deficiency anemia

5. A woman is 42 years old, At the doctor's appointment, the patient complains of fever, frequent bleeding from the gums and nose, enlarged lymph nodes, and general weakness. Upon examination: pale skin and mucous membranes, presence of subcutaneous hemorrhages. Blood tests revealed: signs of anemia, thrombocytopenia, blastosis in peripheral blood. Specify the pathological condition for which this laboratory picture is characteristic:

- A. chronic myelogenous leukemia
- B. acute leukemia
- C. iron deficiency anemia

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D. B-12 deficiency anemia

E. aplastic anemia

6. An 18-year-old female patient is visiting a doctor, complains of enlarged cervical lymph nodes and severe weakness. The blood test shows: pancytopenia and high blastosis in the bone marrow 78%, the reaction to myeloperoxidase is "negative". Your preliminary diagnosis:

A. chronic myelogenous leukemia

B. B-12 deficiency anemia

C. acute lymphocytic leukemia

D. aplastic anemia

E. hemolytic anemia

7. A 25-year-old man came to the doctor complaining of severe weakness, dizziness, shortness of breath during physical exertion, and the appearance of bruises on the body for no apparent reason. The blood test shows: erythrocytes - $1.8 \times 10^{12} / l$, hemoglobin - 36 g / l, color index - 0.9, leukocytes - $1.6 \times 10^9 / l$, platelets - $5.0 \times 10^9 / l$. Your preliminary diagnosis:

A. hemolytic anemia

B. B-12 deficiency anemia

C. iron deficiency anemia

D. aplastic anemia

E. thrombocytopenic purpura

8. A 65-year-old man came to the doctor complaining of general weakness, increased fatigue, sweating, and weight loss of 5 kg over the past 3 months. On examination: pale skin, enlarged cervical and axillary lymph nodes (up to 2 cm), moderate splenomegaly. In the general blood test: leukocytes - $55 \times 10^9 / l$, lymphocytes - 80%, hemoglobin - 100 g/l, platelets - $150 \times 10^9 / l$. Your preliminary diagnosis:

A. chronic myelogenous leukemia

B. aplastic anemia

C. hemolytic anemia

D. hereditary spherocytosis

E. chronic lymphocytic leukemia

9. A 62-year-old woman consulted a doctor complaining of a feeling of heaviness in the left hypochondrium and periodic nosebleeds. Examination revealed severe splenomegaly. Laboratory data: leukocytes - $95 \times 10^9 / l$, lymphocytes - 92%, hemoglobin - 88 g/l, platelets - $90 \times 10^9 / l$. Blood biochemistry: LDH - increased, bilirubin - normal. Name the causes of splenomegaly and thrombocytopenia:

A. chronic lymphocytic leukemia

B. chronic myelogenous leukemia

C. hereditary spherocytosis

D. aplastic anemia

E. autoimmune hemolytic anemia

10. A 68-year-old woman was admitted to hospital with complaints of increased fatigue, night sweats, abdominal pain and weight loss. It is known from the anamnesis that chronic lymphocytic leukemia was diagnosed 3 years ago, chemotherapy was administered, the patient is in remission. Examination revealed enlarged axillary and cervical lymph nodes and splenomegaly. Laboratory data: leukocytes - $150 \times 10^9 / l$, lymphocytes - 85%, hemoglobin - 95 g/l, platelets - $120 \times 10^9 / l$, LDH - increased. Specify the signs of a relapse of the disease in this case:


A. enlarged liver, increased fatigue

B. enlarged lymph nodes, splenomegaly and increased LDH levels

C. night sweats, decreased hemoglobin levels

D. abdominal pain, decreased platelet levels

E. weight loss

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11. A 55-year-old man visits a doctor and complains of frequent respiratory infections, enlarged cervical lymph nodes, and a 4 kg weight loss over the past 2 months. Laboratory data: leukocytes - $60 \times 10^9/l$, lymphocytes - 85%, hemoglobin - 130 g/l, platelets - $150 \times 10^9/l$. Further examination reveals antibodies to the herpes virus, as well as enlarged lymph nodes in the chest. Your preliminary diagnosis:

- A. chronic myelogenous leukemia
- B. hereditary spherocytosis
- C. chronic lymphocytic leukemia with infectious complications
- D. aplastic anemia
- E. autoimmune hemolytic anemia

12. A 63-year-old woman was admitted to hospital complaining of general weakness and enlarged lymph nodes. Laboratory blood tests show: leukocytes - $130 \times 10^9/l$, lymphocytes - 90%, hemoglobin - 95 g/l, platelets - $110 \times 10^9/l$, LDH - a significant increase is noted. Your preliminary diagnosis:

- A. chronic myelogenous leukemia
- B. aplastic anemia
- C. acute leukemia
- D. chronic lymphocytic leukemia
- E. autoimmune hemolytic anemia

13. Marked splenomegaly is a characteristic sign of:

- A. chronic lymphocytic leukemia
- B. B-12 deficiency anemia
- C. acute leukemia
- D. autoimmune hemolytic anemia
- E. chronic myelogenous leukemia

14. A 70-year-old woman diagnosed with chronic lymphocytic leukemia is undergoing observational treatment because she has no obvious symptoms of the disease. During a routine examination, enlarged lymph nodes in the neck and mild splenomegaly are noted. Blood tests show: leukocytes - $50 \times 10^9/l$, lymphocytes - 88%, platelets - $160 \times 10^9/l$, hemoglobin - 130 g/l. Your preliminary diagnosis:

- A. asymptomatic chronic myelogenous leukemia
- B. asymptomatic chronic lymphocytic leukemia
- C. aplastic anemia
- D. hereditary spherocytosis
- E. autoimmune hemolytic anemia

15. A 60-year-old man undergoes examination before a planned operation. Blood tests accidentally reveal: leukocytes - $40 \times 10^9/l$, lymphocytes - 75%, hemoglobin - 125 g/l, platelets - $170 \times 10^9/l$. The patient has no complaints. Your preliminary diagnosis:


- A. asymptomatic chronic myelogenous leukemia
- B. aplastic anemia
- C. hereditary spherocytosis
- D. autoimmune hemolytic anemia
- E. asymptomatic chronic lymphocytic leukemia

16. The normal number of platelets in the blood is:

- A. $50.0 - 180.0 \times 10^9/l$
- B. $250.0 - 400.0 \times 10^9/l$
- C. $180 - 320 \times 10^9/l$
- D. $350.0 - 450.0 \times 10^9/l$
- E. $>150.0 - 200.0 \times 10^9/l$

17. An increase in the number of platelets in the blood is called:


- A. leukocytosis
- B. poikilocytosis

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- C. anisocytosis
- D. erythrocytosis
- E. thrombocytosis
- 18. "Thrombocytopenia" means:
 - A. decrease in platelet count
 - B. hypofunction of platelets
 - C. increase in the number of platelets in the blood
 - D. platelet hyperfunction
 - E. decrease in the number of red blood cells
- 19. An increase in the number of leukocytes in the blood is called:
 - A. erythrocytosis
 - B. lymphocytosis
 - C. thrombocytosis
 - D. leukocytosis
 - E. anisocytosis
- 20. A decrease in the number of leukocytes in the blood is called:
 - A. erythropenia
 - B. lymphopenia
 - C. lymphocytosis
 - D. leukocytosis
 - E. leukopenia

OPTION 3

1. A 56-year-old man with chronic lymphocytic leukemia complains of frequent upper respiratory tract infections, headache, general weakness, and weight loss at a doctor's appointment. Blood tests show: leukocytes - $95 \times 10^9/l$, lymphocytes - 90%, hemoglobin - 110 g/l, platelets - $150 \times 10^9/l$, LDH - elevated. Specify the complication that may develop in this patient:
 - A. acute renal failure
 - B. increased risk of infections due to immunodeficiency
 - C. autoimmune hemolytic anemia
 - D. vitamin B-12 or folate deficiency
 - E. aplastic anemia
2. A 55-year-old man complains of rapid fatigue, sweating, and pain in the left hypochondrium during a doctor's appointment. An examination revealed an enlarged spleen, an increased level of leukocytes in the blood to $120 \times 10^9/l$, a shift in the formula to the left, and the presence of myeloblasts. Your preliminary diagnosis:
 - A. chronic lymphocytic leukemia
 - B. aplastic anemia
 - C. chronic myelogenous leukemia
 - D. hereditary spherocytosis
 - E. autoimmune hemolytic anemia
3. A 50-year-old man, at a visit to a therapist, complains of general weakness, rapid fatigue, sweating, and weight loss over the past few months. An examination revealed an enlarged spleen and liver. Complete blood count: leukocytosis ($150,000/mcl$), basophilia, eosinophilia, myelocytes in the blood. Your preliminary diagnosis:
 - A. chronic lymphocytic leukemia
 - B. aplastic anemia
 - C. hereditary spherocytosis

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- D. chronic myelogenous leukemia
 E. autoimmune hemolytic anemia
4. A 48-year-old woman complains of a feeling of heaviness in the abdomen, rapid fatigue, and night sweats at a doctor's appointment. Complete blood count: leukocytes 200,000/ μ l, of which myelocytes and metamyelocytes predominate, basophilia, eosinophilia. An ultrasound of the abdominal cavity shows an enlarged spleen and liver. Name a laboratory diagnostic method to confirm the diagnosis in this case:
 A. Determination of C-reactive protein
 B. Determination of leukocytes, erythrocyte sedimentation rate
 C. PCR (polymerase chain reaction)
 D. Enzyme-linked immunosorbent assay (ELISA)
 E. molecular genetic testing to identify the Philadelphia chromosome, testing for the presence of the BCR-ABL gene
5. A 55-year-old man presents to a doctor with complaints of increased fatigue, bone pain, and frequent headaches. Upon examination: enlarged spleen. Blood tests show leukocytosis 120,000/mcl, blood smear shows myelocytes and metamyelocytes, and there are also signs of basophilia. Cytogenetic testing revealed the Philadelphia chromosome. Your preliminary diagnosis:
 A. chronic lymphocytic leukemia
 B. chronic myelogenous leukemia
 C. aplastic anemia
 D. hereditary spherocytosis
 E. autoimmune hemolytic anemia
6. A 47-year-old patient, who had not previously suffered from blood diseases, consulted a doctor with complaints of general weakness, fever up to 37-38°C, and night sweats. The blood test shows: leukocytosis 100,000/mcl, presence of myelocytes and metamyelocytes, basophilia. Abdominal ultrasound shows an enlarged spleen. Your preliminary diagnosis:
 A. chronic lymphocytic leukemia
 B. aplastic anemia
 C. chronic myelogenous leukemia
 D. autoimmune hemolytic anemia
 E. hereditary spherocytosis
7. A 45-year-old patient complains of general weakness, fever, frequent bleeding from the gums and nose, and enlarged lymph nodes. He was previously healthy. On examination: pale skin, subcutaneous hemorrhages. A complete blood count shows a sharp decrease in the level of red blood cells, platelets, and white blood cells. The blood smear reveals abnormal blast cells. Your preliminary diagnosis:
 A. chronic myelogenous leukemia
 B. chronic lymphocytic leukemia
 C. autoimmune hemolytic anemia
 D. acute leukemia
 E. hereditary spherocytosis
8. A 45-year-old woman came to the clinic complaining of rapid fatigue, general weakness, loss of appetite, dizziness, and a tingling sensation in her arms and legs. She also noted that her vision had worsened and she had problems concentrating. Blood tests revealed a low level of vitamin B12. Your preliminary diagnosis:
 A. iron deficiency anemia
 B. aplastic anemia
 C. autoimmune hemolytic anemia
 D. hereditary spherocytosis
 E. Vitamin B-12 deficiency anemia

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9. A 60-year-old man came to the doctor complaining of rapid fatigue, dizziness, loss of appetite, and a tingling sensation in the upper and lower extremities. On examination: pale skin and mucous membranes. History: suffers from chronic alcoholism. Blood tests show: anemia with hyperchromic erythrocytes and low levels of vitamin B12. Your preliminary diagnosis:

- A. autoimmune hemolytic anemia
- B. Vitamin B-12 deficiency due to poor absorption in the intestines
- C. iron deficiency anemia
- D. aplastic anemia
- E. hereditary spherocytosis

10. A 28-year-old woman, a vegan, came to the doctor with complaints of rapid fatigue, dizziness, pain in the lower extremities, especially at night. On examination: pale skin. Blood tests revealed: megaloblastic erythrocytes, low levels of vitamin B12 and increased homocysteine levels. Your preliminary diagnosis:

- A. aplastic anemia
- B. iron deficiency anemia
- C. deficiency anemia due to vitamin B12 deficiency
- D. autoimmune hemolytic anemia
- E. hereditary spherocytosis

11. A 55-year-old man, at a therapist's appointment, complains of general weakness, impaired coordination, and numbness in the lower and upper extremities. History: gastric ulcer, has been taking proton pump inhibitors for a long time. Blood tests reveal megaloblastic anemia and vitamin B12 deficiency. Specify the cause of vitamin B12 deficiency:

- A. Vitamin B12 deficiency can be caused by psycho-emotional stress.
- B. Vitamin B12 deficiency can be caused by chronic inflammation.
- C. Vitamin B12 deficiency can be caused by folate deficiency.
- D. Vitamin B12 deficiency can be caused by intestinal dysbacteriosis
- E. Vitamin B12 deficiency may be caused by long-term use of proton pump inhibitors.

12. A 50-year-old woman, at a reception with a therapist, complains of a constant feeling of fatigue, sleep disorders and depressive mood. From the anamnesis: the patient has no history of gastrointestinal diseases, she does not adhere to a strict diet. Blood tests revealed: anemia with macrocytic red blood cells and low levels of vitamin B12. Indicate the cause of vitamin B12 deficiency:


- A. intestinal absorption disorder due to vitamin D deficiency
- B. impaired absorption in the intestine due to decreased function of the gastric mucosa
- C. intestinal absorption disorder due to long-term use of drugs
- D. intestinal absorption disorder due to iron deficiency
- E. intestinal malabsorption due to folate deficiency

13. A 34-year-old woman, 14 weeks pregnant, consulted a doctor complaining of general fatigue, dizziness, and frequent headaches. On examination: pale skin, tachycardia of 98 beats per minute, decreased hemoglobin level to 90 g/l, normal red blood cell volume, decreased serum folate level. Your preliminary diagnosis:

- A. iron deficiency anemia
- B. aplastic anemia
- C. folate deficiency anemia
- D. autoimmune hemolytic anemia
- E. hereditary spherocytosis

14. A 25-year-old woman complains of general fatigue and headache at a doctor's appointment. Blood tests show: hemoglobin level 95 g/l, decreased ferritin level, normal vitamin B-12 level, decreased folate level. Your preliminary diagnosis:

- A. iron deficiency anemia
- B. aplastic anemia

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C. autoimmune hemolytic anemia

D. hereditary spherocytosis

E. folate deficiency anemia

15. A 68-year-old patient complains of general weakness, dizziness, and loss of appetite at a doctor's appointment. History: chronic gastritis and regular use of proton pump inhibitors. Blood tests show: hemoglobin level - 88 g/l, red blood cell volume is normal, folate level is reduced. Your preliminary diagnosis:

A. iron deficiency anemia

B. folate deficiency anemia

C. autoimmune hemolytic anemia

D. aplastic anemia

E. B-12 deficiency anemia

16. Name the causes of iron deficiency anemia in men:

A. malignant tumors

B. bleeding from the gastrointestinal tract

C. alcoholic hepatitis

D. hematuric form of glomerulonephritis

E. hemoptysis

17. Specify the type of bleeding in autoimmune thrombocytopenia:

A. hematoma

B. angiomatous

C. spotted-petechial

D. vasculitic-purpuric

E. mixed character

18. Name the common characteristic signs of thalassemia and iron deficiency anemia:

A. hypochromia of erythrocytes

B. hyperbilirubinemia

C. reticulocytosis and other signs of hemolysis

D. target shape and basophilic puncturation of erythrocytes

E. increase in the level of fetal hemoglobin

19. Iron is deposited mainly in the form of:

A. transferrin

B. protoporphyrin

C. ferritin

D. hema

E. hemoglobin

20. Excess iron in infectious-inflammatory anemia is formed in:

A. erythrocytes

B. In blood serum

C. bone tissue

D. liver


E. bone marrow macrophages

OPTION 4


1. A 30-year-old woman suffering from insomnia and depression was found to have folate deficiency in her blood. Indicate the importance of folate for the body:

A. is involved in the formation of red blood cells in the bone marrow

B. participates in the formation of vitamin B-12 in the intestine

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- C.promotes the production of stress hormones in the body
 D. plays a key role in DNA synthesis and in the normal functioning of the nervous system.
 E.important for the proper functioning of the liver and kidneys
2. To diagnose iron deficiency anemia and anemias associated with impaired heme synthesis, the main differential diagnostic feature is:
 A. serum folic acid content
 B. hemoglobin content in blood serum
 C. leukocyte content in blood serum
 D. lymphocyte content in blood serum
 E. serum iron content
3. Indicate the cause of the development of funicular myelosis:
 A. folate metabolism disorder
 B. arachidonic acid metabolism disorder
 C. Disorder of succinic acid metabolism
 D. amino acid metabolism disorder
 E. methylmalonic acid metabolism disorder
4. A 45-year-old man has a history of gastric resection 3 years ago. Blood test: red blood cell count is $2.0 \times 10^{12}/l$; hemoglobin is 85 g/l; color index is 1.27. What vitamin absorption disorder caused this change in erythropoiesis:
 A.S
 B. RR
 C. A
 D. B6
 E. B12
5. A 29-year-old man, at a doctor's appointment, complains of paresthesia in the feet and gait instability, rapid fatigue, dizziness, pain in the lower extremities. These symptoms in B-12 deficiency anemia are associated with:
 A. hypokalemia
 B. funicular myelosis
 C. alcoholic encephalopathy
 D. residual effects of cerebrovascular accident
 E. angiopathy of the arteries of the lower extremities
6. The main diagnostic method confirming the presence of acute leukemia is:
 A. clinical blood test
 B. Ultrasound of the abdominal cavity
 C. bone marrow examination
 D. echoencephalography
 E. electrocardiography
7. Name the characteristic changes in the tongue in iron deficiency anemia:
 A. Raspberry tongue
 V. varnished tongue
 C. geographic language
 D. teeth marks on the tongue
 E. papillary atrophy
8. "Coagulopathies":
 A. associated with vascular damage
 B. are associated with a violation of the platelet homeostasis link
 C. are associated with a violation of the plasma link of homeostasis
 D. are associated with a violation of the vascular link of homeostasis

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E. associated with taking medications

9. Name the characteristic signs in the blood for the third stage of chronic lymphocytic leukemia according to the RAI classification:

- A. leukocytosis and erythrocytosis
- B. leukocytosis and erythropenia
- C. lymphocytosis and anemia
- D. thrombocytosis and leukopenia
- E. erythrocytosis and thrombocytopenia

10. Hepatosplenomegaly in acute leukemia is a manifestation of:

- A. hemorrhagic syndrome
- B. hyperplastic syndrome
- C. infectious complications
- D. anemic syndrome
- E. sideropenic syndrome

11. A 45-year-old woman, at a therapist's appointment, complains of general weakness, dizziness, shortness of breath during physical exertion. Examination reveals pale skin and tachycardia. Blood tests show a decrease in hemoglobin levels to 95 g/l, a decrease in serum iron levels to 5 $\mu\text{mol/l}$, and low ferritin levels. Your preliminary syndrome:

- A. thrombocytopenic syndrome
- B. hemorrhagic syndrome
- C. anemic syndrome
- D. cytopenic syndrome
- E. sideropenic syndrome

12. A 22-year-old man consulted a doctor complaining of general fatigue, brittle nails, hair loss, and frequent headaches. Tests revealed a decrease in the iron level in the blood and normal levels of other microelements. Your preliminary syndrome:

- A. cytopenic syndrome
- B. anemic syndrome
- C. sideropenic syndrome
- D. thrombocytopenic syndrome
- E. hemorrhagic syndrome


13. A 60-year-old patient's blood tests revealed decreased hemoglobin and iron levels, as well as increased transferrin levels. Name an additional diagnostic test to assess the level of iron deficiency:

- A. iron level test, x-ray examination
- B. Folate test, abdominal ultrasound
- C. Ferritin level test, endoscopic examination
- D. hemoglobin level assessment, brain MRI
- E. B-12 level analysis, CT scan

14. A 30-year-old man, at a doctor's appointment, complains of general weakness, rapid heartbeat, and dark urine. From his medical history, he notes that he had an infectious disease with a high temperature a few days ago. Blood tests reveal elevated levels of bilirubin and reticulocytes, as well as decreased hemoglobin levels. Blood microscopy shows spherocytes. Your preliminary diagnosis:

- A. B-12 deficiency anemia
- B. thrombocytopenic purpura
- C. iron deficiency anemia
- D. hemorrhagic vasculitis
- E. autoimmune hemolytic anemia

15. A 30-year-old man complains of general weakness, rapid heartbeat, and dark urine at a doctor's appointment. He notes from his medical history that he had an infectious disease with a high temperature

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a few days ago. Tests show elevated bilirubin and reticulocyte levels, as well as decreased hemoglobin levels. Blood microscopy shows spherocytes. To clarify the cause, it is necessary to:

- A. Determination of the level of vitamin B-12 in the blood
 - B. determination of serum iron levels
 - C. determination of folate levels in the blood
 - D. tests for antigens and antibodies in the blood: direct Coombs test
 - E. determination of the level of red blood cells in the blood
16. Specify the characteristic signs of iron deficiency anemia:
- A. hyperchromia, increased platelet count
 - B. hyperchromia, macrocytosis, target erythrocytes
 - C. hypochromia, microcytosis, increased iron-binding capacity of serum
 - D. hyperchromia, macrocytosis, decreased iron-binding capacity of serum
 - E. hyperchromia, macrocytosis, increased lymphocyte count
17. The main reason for the development of hemorrhagic syndrome in leukemia is:
- A. development of hemorrhagic vasculitis
 - B. plasma procoagulant deficiency
 - C. splenomegaly
 - D. thrombocytopenia
 - E. thrombocytosis
18. Megaloblastic type of hematopoiesis is characteristic of:
- A. sickle cell anemia
 - B. aplastic anemia
 - C. iron deficiency anemia
 - D. acute leukemia
 - E. B-12 deficiency anemia
19. The main symptoms of anemia are associated with:
- A. intoxication
 - B. hypoxemia
 - C. malabsorption
 - D. violation of water-electrolyte balance
 - E. carbohydrate metabolism disorder
20. What disease is characterized by blast crises:
- A. chronic lymphocytic leukemia
 - B. acute leukemia
 - C. chronic myelogenous leukemia
 - D. sickle cell anemia
 - E. aplastic anemia

OPTION 5

1. A 45-year-old woman complains of severe fatigue, dizziness, and pain in her lower extremities at a general practitioner's appointment. Examination reveals yellowing of the skin and sclera. Blood tests show anemia with an increase in the number of reticulocytes, as well as an increase in the level of indirect bilirubin. Your preliminary diagnosis:

- A. B-12 deficiency anemia
- B. acquired autoimmune hemolytic anemia
- C. thrombocytopenic purpura
- D. iron deficiency anemia
- E. hemorrhagic vasculitis

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2. Stage 4 of chronic lymphocytic leukemia is characterized by:

- A. thrombocytosis and leukopenia
- B. leukocytosis and thrombocytosis
- C. lymphocytosis and thrombocytopenia
- D. erythrocytosis and leukopenia
- E. erythropenia and leukocytosis

3. A 39-year-old woman visits a doctor complaining of general weakness, difficulty swallowing, and a lump in the throat. Examination reveals enlarged lymph nodes in the neck, dense to the touch, easily movable under the skin, not fused with surrounding tissues. The doctor makes a preliminary diagnosis of lymphogranulomatosis. Specify a characteristic objective symptom for this diagnosis:

- A. increase in body temperature
- B. enlarged spleen
- C. enlarged liver
- D. enlarged lymph nodes
- E. weight gain

4. At a doctor's appointment, a 37-year-old woman complains of dizziness, fainting, a tingling sensation in the chest, shortness of breath, and general weakness. The doctor made a preliminary diagnosis: "Aplastic anemia." Specify the characteristic changes in the general blood test for this diagnosis:

- A. erythrocytosis with leukocytosis
- B. erythrocytopenia with leukocytosis
- C. leukocytosis and thrombocytosis
- D. leukocytosis and erythrocytosis
- E. erythrocytopenia with thrombocytopenia and leukocytopenia

5. A 29-year-old woman was found to have hemorrhagic rashes on her skin during examination. Blood tests revealed severe anemia, thrombocytopenia, and moderate neutropenia. What is the mechanism for the development of this clinical and laboratory picture?


- A. bone marrow hyperplasia
- B. bone marrow aplasia
- C. Castle factor deficiency
- D. Vitamin B12 deficiency
- E. iron deficiency

6. A 47-year-old man, during a general blood test, the following changes were found: anemia, normocytosis, normochromia and a significant increase in regenerative forms. The level of reticulocytes in the blood is significantly elevated. Specify the type of anemia that is characterized by these blood indicators:


- A. chronic lymphocytic leukemia
- B. autoimmune hemolytic anemia
- C. acute leukemia
- D. aplastic anemia
- E. acute posthemorrhagic

7. A 43-year-old woman visits a doctor and complains of dizziness, blurred vision, decreased sensitivity in the lower extremities, a tingling sensation when walking, and general weakness. History: the above complaints have been bothering her for 6 months, and she cannot indicate a possible cause. On examination: moderate yellowness of the skin, and when palpated, the liver protrudes from under the costal margin by 2.0 cm. In the general blood test: erythrocytes - $1.3 \times 10^{12}/l$, hemoglobin - 72 g/l, color index - 1.45, leukocytes - $4.3 \times 10^9/l$, eosin - 2, base - 0, pal. - 5, segmental - 66, mon. - 11, lymph. - 27, erythrocyte sedimentation rate - 14 mm/hour. Endoscopic examination revealed atrophic changes in the gastric mucosa. Name the pathological process in this case:

- A. liver cirrhosis

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- B. Addison-Biermer disease
 C. viral hepatitis C
 D. iron deficiency anemia
 E. autoimmune hemolytic anemia
8. A 56-year-old man consulted his family doctor complaining of increased sweating, general weakness, rapid fatigue despite usual physical activity, and weight loss over the past two months. Examination revealed enlarged cervical lymph nodes, dense on palpation. A complete blood count revealed: erythrocytes - $2.0 \times 10^{12}/l$; leukocytes $50.0 \times 10^9/l$, platelets - $160 \times 10^9/l$. What syndrome is characterized by these clinical and laboratory symptoms?
 A. anemic
 B. aplastic
 C. lymphoproliferative
 D. hemorrhagic
 E. myeloproliferative
9. A 39-year-old woman developed profuse nosebleeds. History: long-term illness from viral hepatitis. Examination revealed: petechial-spotted rash on the skin, hepatomegaly and splenomegaly, blood tests: Lee-White blood clotting time - 22 minutes. Specify the syndrome in this case:
 A. lymphoproliferative
 B. myeloproliferative
 C. aplastic
 D. hemorrhagic
 E. anemic
10. A 39-year-old man consulted his local doctor complaining of pain in the epigastric region, general weakness, and fatigue. His medical history includes a year-long history of duodenal ulcer. On examination, the skin is pale and there is pain in the epigastric region. The liver and spleen are not palpable. Blood test results: hemoglobin - 90 g/l, erythrocytes - $3.5 \times 10^{12}/l$, color index - 0.77, platelets - $195 \times 10^9/l$, reticulocytes - 0.5%. Total bilirubin - $12 \mu\text{mol}/l$, iron - $4.5 \mu\text{mol}/l$. Fecal occult blood test is positive. Specify the type of anemia in this patient:
 A. aplastic anemia
 B. hemolytic anemia
 C. B12-deficiency anemia
 D. acute posthemorrhagic anemia
 E. chronic posthemorrhagic anemia
11. A 33-year-old man consulted a doctor about multiple pinpoint hemorrhages on the skin and mucous membranes. Blood test: hemoglobin - 100 g/l, erythrocytes - $3.1 \times 10^{12}/l$, leukocytes - $41 \times 10^9/l$, also in the leukocyte formula young, immature blast forms up to 95% and mature leukocytes predominate, intermediate forms are absent; platelets - $15 \times 10^9/l$, eosinophils and basophils are absent; erythrocyte sedimentation rate - 52 mm/hour. Your preliminary diagnosis:
 A. acute leukemia
 B. hemorrhagic vasculitis
 C. aplastic anemia
 D. autoimmune hemolytic anemia
 E. thrombocytopenic purpura
12. A 29-year-old woman consulted a doctor complaining of multiple, spontaneous, subcutaneous hemorrhages and periodic nosebleeds. According to the anamnesis, she has been noticing this condition for 6 months and does not associate it with anything. Upon examination, there are numerous subcutaneous hemorrhages of varying sizes over the entire surface of the skin. Pulse is 90 beats per minute, blood pressure is 100/70 mm Hg. Heart sounds are rapid and clear. Vesicular breathing is heard in the lungs. The tongue is clean, the pharynx is calm. On palpation, the abdomen is soft and painless.

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The liver and spleen are not enlarged. There are positive symptoms of a tourniquet and a pinch. Name the cause of the hemorrhagic syndrome:

- A. chronic myelogenous leukemia
- B. thrombocytopenia
- C. acute leukemia
- D. hemorrhagic vasculitis
- E. chronic lymphoblastic leukemia

13. A 27-year-old man complains of hemorrhagic rashes and frequent sore throats at a doctor's appointment. From the anamnesis: he has suffered from rheumatoid arthritis since childhood and has been taking non-steroidal anti-inflammatory drugs for a long time. During the examination, a general blood test revealed: anemia, thrombocytopenia and neutropenia. The pathological condition of which is characterized by this clinical and laboratory picture:

- A. folic acid deficiency
- B. myeloproliferation
- C. bone marrow aplasia
- D. lymphoproliferation
- E. iron deficiency

14. A 36-year-old man, during a doctor's examination, was found to have enlarged lymph nodes, an enlarged spleen, and a blood test showed lymphocytic leukocytosis. These symptoms are characteristic of:

- A. hemorrhagic vasculitis
- B. acute leukemia
- C. chronic myelogenous leukemia
- D. chronic lymphocytic leukemia
- E. aplastic anemia

15. A 45-year-old woman's peripheral blood tests revealed the following: hemoglobin - 66 g/l; erythrocytes - $2.19 \times 10^{12}/l$; color index - 0.9; leukocytes - $45.0 \times 10^9/l$; neutrophils: p/y - 0.5%; s/y - 2.5%; eosinophils - 0%; prolymphocytes - 5%; lymphocytes - 92%; monocytes - 5%; platelets $80 \times 10^9/l$; erythrocyte sedimentation rate - 40 mm/h; moderate erythrocyte anisocytosis, Humprecht's shadows - 2-4 in the field of vision. Your preliminary diagnosis:

- A. B-12 deficiency anemia
- B. acute leukemia
- C. chronic myelogenous leukemia
- D. autoimmune hemolytic anemia
- E. chronic lymphocytic leukemia

16. Specify the characteristic signs of folate deficiency anemia:


- A. normochromic type of anemia
- B. increased folate levels in the blood
- C. hyperchromic type of anemia
- D. decrease in deoxyribonuclease in the blood
- E. hypochromic type of anemia

17. The main amount of iron in the human body is absorbed in the stomach:

- A. in the descending colon
- V. in the ileum
- C. in the ascending colon
- D. in the duodenum and jejunum
- E. in the cecum

18. Iron is best absorbed:

- A. in the form of ferritin
- B. in the form of hemosiderin

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S. in the form of free trivalent iron

D. in the form of free divalent iron

E. in the form of heme

19. The mechanism of yellowness of the skin in megaloblastic anemia:

A. liver damage

B. cholestasis

C. formation of indirect bilirubin during hemolysis of erythrocytes

D. malabsorption

E. cytolysis

20. In the bone marrow with autoimmune thrombocytopenia the following is observed:

A. expansion of the megakaryocytic lineage

B. narrowing of the megakaryocytic lineage

C. suppression of erythroid germ

D. expansion of the erythroid germ

E. narrowing of the erythroid lineage

OPTION 6

1. A 52-year-old man has the following results in peripheral blood tests: hemoglobin - 142 g/l; erythrocytes - $4.28 \times 10^{12}/l$; color index - 0.99; leukocytes - $41.4 \times 10^9/l$; neutrophils: myeloblasts - 2%; promyelocytes - 1%; myelocytes - 12%; metamyelocytes (young) - 6%; p / b - 13%; s / b - 38%; eosinophils 5%; basophils - 13%; lymphocytes - 8%; monocytes - 2%; platelets $698 \times 10^9/l$; erythrocyte sedimentation rate - 18 mm/h. Your preliminary diagnosis:

A. chronic lymphocytic leukemia

B. chronic myelogenous leukemia

C. acute leukemia

D. autoimmune hemolytic anemia

E. aplastic anemia

2. A 68-year-old man visits a doctor and complains of sweating, weight loss of 10 kg over the past 2 years, and general weakness. Examination reveals enlarged liver, spleen, and all groups of lymph nodes. A complete blood count (CBC): hemoglobin - 85 g/L, erythrocytes - $3.0 \times 10^{12}/L$, leukocytes - $135.0 \times 10^9/L$, p/y - 3%, lymph. - 96%, mon. - 1%, erythrocyte sedimentation rate - 28 mm/hour. Total bilirubin is $45 \mu\text{mol}/L$, direct - $11 \mu\text{mol}/L$. Serum iron is 28 mmol/L, Coombs test is positive. Your preliminary diagnosis:

A. autoimmune hemolytic anemia

B. acute leukemia

C. chronic lymphocytic leukemia

D. chronic myelogenous leukemia

E. aplastic anemia

3. A 30-year-old man was hospitalized for pain in the epigastric region with severe circulatory-hypoxic syndrome. History of gastric ulcer. On examination: skin and visible mucous membranes are pale. Blood test: hemoglobin - 90 g/l, erythrocytes - $3.5 \times 10^{12}/l$, color index - 0.7, platelets - $180.0 \times 10^9/l$, reticulocytes - 0.5%. Bilirubin - $12 \mu\text{mol}/l$, serum iron - 4.6 mmol/l. Gregersen reaction is positive. Specify the type of anemia in this patient:


A. aplastic anemia

B. hemolytic anemia


C. acute posthemorrhagic anemia

D. iron deficiency anemia

E. B-12 deficiency anemia

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4. A 53-year-old woman consulted a doctor about a feeling of heaviness in the left hypochondrium. Examination revealed hypersplenomegaly. Blood test: erythrocytes - $3.1 \times 10^{12}/l$, hemoglobin - 104 g/l, leukocytes - $126 \times 10^9/l$, promyelocytes - 3%, myelocytes - 5%, young - 9%, p/y - 17%, s/y - 48%, eosin - 7%, basal - 3%, lymph. - 8%, platelets - $580 \times 10^9/l$, erythrocyte sedimentation rate - 24 mm/hour. Your preliminary diagnosis:
- chronic lymphocytic leukemia
 - acute leukemia
 - aplastic anemia
 - acute posthemorrhagic anemia
 - chronic myelogenous leukemia
5. A 53-year-old woman consulted a doctor about a feeling of heaviness in the left hypochondrium. Examination revealed hypersplenomegaly. Blood test: erythrocytes - $3.1 \times 10^{12}/l$, hemoglobin - 104 g/l, leukocytes - $126 \times 10^9/l$, promyelocytes - 3%, myelocytes - 5%, young - 9%, p/y - 17%, s/y - 48%, eosin - 7%, basal - 3%, lymph. - 8%, platelets - $580 \times 10^9/l$, erythrocyte sedimentation rate - 24 mm/hour. Specify the characteristic changes in the bone marrow:
- rich bone marrow due to myeloid cells
 - low myeloid cell count
 - rich bone marrow due to lymphoid cells
 - increased content of lymphoid cells
 - normal content of lymphoid cells
6. A 53-year-old woman consulted a doctor about a feeling of heaviness in the left hypochondrium. Examination revealed hypersplenomegaly. Blood test: erythrocytes - $3.1 \times 10^{12}/l$, hemoglobin - 104 g/l, leukocytes - $126 \times 10^9/l$, promyelocytes - 3%, myelocytes - 5%, young - 9%, p/y - 17%, s/y - 48%, eosin. - 7%, bas. - 3%, lymph. - 8%, platelets - $580 \times 10^9/l$, erythrocyte sedimentation rate - 24 mm/hour. Specify additional tests to establish a diagnosis:
- endoscopic examination of the stomach
 - cytogenetic studies
 - puncture of lymph nodes
 - fecal occult blood test
 - determination of serum iron in the blood
7. A 64-year-old woman was admitted to the hospital with complaints of dizziness, shortness of breath, pain in the epigastric region, a feeling of heaviness after eating, rotten belching, and general weakness. Objectively: moderate splenomegaly and decreased tactile sensitivity in the right lower limb of the "stocking" type were revealed. In the general blood test: erythrocytes $2.5 \times 10^{12} / l$, hemoglobin - 88 g / l, color index - 1.1, leukocytes $3.2 \times 10^9 / l$, platelets - $150 \times 10^9 / l$, reticulocytes - 0.2%, bilirubin - 42 mmol / l (indirect fraction 33 mmol / l). Your preliminary diagnosis:
- acute leukemia
 - iron deficiency anemia
 - B-12 deficiency anemia
 - aplastic anemia
 - autoimmune hemolytic anemia
8. An 18-year-old man was admitted to hospital with complaints of enlarged lymph nodes and severe weakness. A general blood test showed: erythrocytes - $2.5 \times 10^{12}/l$, hemoglobin - 79 g/l, color index - 0.8, leukocytes - $6.1 \times 10^9/l$, leukogram - blasts - 85%, lymphocytes - 10%, s/y - 5%, platelets - $100 \times 10^9/l$. Your preliminary diagnosis:
- chronic lymphocytic leukemia
 - chronic myelogenous leukemia
 - aplastic anemia
 - acute leukemia

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E. autoimmune hemolytic anemia

9. An 18-year-old man was admitted to hospital with complaints of enlarged lymph nodes and severe weakness. In the general blood test: erythrocytes - $2.5 \times 10^{12}/l$, hemoglobin - 79 g/l, color index -0.8, leukocytes - $6.1 \times 10^9/l$, in the leukogram - blasts - 85%, lymphocytes - 10%, s/y - 5%, platelets - $100 \times 10^9/l$. Cytochemistry for myeloperoxidase and lipids is negative, and the Schick reaction is positive in the form of granules. Your preliminary diagnosis:

- A. acute lymphoblastic leukemia
- B. acute myeloid leukemia
- C. aplastic anemia
- D. chronic myelogenous leukemia
- E. chronic lymphocytic leukemia

10. A 53-year-old man was admitted to hospital. Examination revealed pronounced splenomegaly. In the general blood test: erythrocytes - $3.2 \times 10^{12}/l$, hemoglobin - 98 g/l, color index -0.9, leukocytes $120 \times 10^9/l$, promyelocytes - 12%, myelocytes - 10%, p/y - 12%, s/y - 32%, lymph. - 19%, bas. - 7%, eosin. - 8%, erythrocyte sedimentation rate - 42 mm/h. Wright and Hedderson reactions are negative. Your preliminary diagnosis:

- A. chronic lymphocytic leukemia
- B. chronic myelogenous leukemia
- C. acute leukemia
- D. aplastic anemia
- E. acute leukemia

11. A 36-year-old man consulted a doctor complaining of a petechial-spotted rash on his body, nosebleeds and bleeding gums. On examination: the edge of the spleen is palpated. In the blood test - erythrocytes - $4.0 \times 10^{12} / l$, leukocytes $4.5 \times 10^9 / l$, leukocyte formula - unchanged, platelets - $12 \times 10^9 / l$, bleeding time is prolonged. Your preliminary diagnosis:


- A. aplastic anemia
- B. autoimmune hemolytic anemia
- C. autoimmune thrombocytopenic purpura
- D. hemorrhagic vasculitis
- E. chronic posthemorrhagic anemia

12. A 36-year-old man has a petechial-spotted rash on his body, and is bothered by nosebleeds and gingival bleeding. On examination: the edge of the spleen is palpated. In the blood test: erythrocytes - $4.0 \times 10^{12} / l$, leukocytes $4.5 \times 10^9 / l$, leukocyte formula - unchanged, platelets $12 \times 10^9 / l$, bleeding time is prolonged. Specify the expected result in the myelogram:

- A. increase in megakaryocytic lineage
- B. hyperplasia of the erythroid lineage
- C. reduction of megakaryocytic lineage
- D. irritation of the megakaryocytic lineage
- E. decrease in the number of myeloid cells

13. A 28-year-old man was treated for 3 weeks for stomatitis without effect with increasing weakness and sweating. Objectively: body temperature is 38.8 degrees, skin is pale and moist. Gingival hyperplasia, ulcerative necrotic stomatitis. Submandibular lymph nodes are enlarged and painless on palpation. Blood tests: erythrocytes - $3.0 \times 10^{12} / l$, hemoglobin - 95 g / l, color index - 0.95, leukocytes - $14.5 \times 10^9 / l$, blasts - 32% pal. - 1%, segments - 39%, lymph. - 20%, mon. - 8%, thrombus. - $90.0 \times 10^9/l$, erythrocyte sedimentation rate - 24 mm/h. Cytochemical study: reaction to glycogen is positive. After 3 days there were headaches, dizziness, nausea, vomiting, paresis of the lower extremities. Your preliminary diagnosis:

- A. acute myeloid leukemia
- B. chronic lymphocytic leukemia

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C. chronic myelogenous leukemia

D. aplastic anemia

E. acute lymphoblastic leukemia

14. A 46-year-old woman complains of nosebleeds, bleeding from the gums and uterus, general weakness and shortness of breath during exertion during a doctor's appointment. Objectively: the skin is pale, there are bruises on the anterior thighs and abdomen, the nose is tamponed. On auscultation of the heart: systolic murmur at the apex of the heart, heart rate of 98 beats per minute, blood pressure of 100/70 mm Hg. The liver and spleen are not enlarged. A blood test reveals: erythrocytes - $2.8 \times 10^{12}/l$, hemoglobin - 76 g/l, color index - 0.81, leukocytes - $9.2 \times 10^9/l$, platelets - $32 \times 10^9/l$, erythrocyte sedimentation rate - 22 mm/h. Duration of bleeding - 18 min. Your preliminary diagnosis:

A. idiopathic autoimmune thrombocytopenic purpura

B. hemorrhagic vasculitis

C. autoimmune hemolytic anemia

D. chronic lymphocytic leukemia

E. chronic myelogenous leukemia

15. A 44-year-old man visits a doctor. Upon examination, he notices a small-point hemorrhagic rash on the skin of his thighs that does not disappear when pressed, and pain in the knee, ankle, and wrist joints. A general urine analysis reveals microhematuria. In the coagulogram: paracoagulation tests are positive. Your preliminary diagnosis:

A. chronic myelogenous leukemia

B. hemorrhagic vasculitis

C. chronic lymphocytic leukemia

D. aplastic anemia

E. autoimmune hemolytic anemia

16. An 18-year-old man has a high fever, hemorrhagic and anemic syndrome. A blood test revealed 38% blasts. Your preliminary diagnosis:

A. aplastic anemia

B. chronic lymphocytic leukemia

C. acute leukemia

D. chronic myelogenous leukemia

E. folate deficiency anemia

17. A 42-year-old woman suffering from menorrhagia has a blood test that reveals: decreased hemoglobin to 90 g/l, hypochromia of erythrocytes, low serum iron levels, brittle nails, hair loss, dry skin. Your preliminary diagnosis:

A. hemolytic anemia

B. aplastic anemia

C. B-12 deficiency anemia

D. iron deficiency anemia

E. folate deficiency anemia

18. A 65-year-old man, upon examination, noted: enlarged lymph nodes. In the blood test - leukocytosis with absolute lymphocytosis, Botkin-Gumprecht shadows. Your preliminary diagnosis:

A. acute leukemia


B. chronic myelogenous leukemia

C. aplastic anemia

D. folate deficiency anemia

E. chronic lymphocytic leukemia

19. A 37-year-old woman visits a doctor and complains of general weakness, dizziness, darkening of the vision, paresthesia in the feet, and unsteadiness of gait. She notes a 10 kg weight loss over the past 3 months. Examination reveals slight yellowness of the skin. The liver protrudes 1.5 cm from under the

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costal margin. The spleen is not palpable. Blood tests reveal: hemoglobin - 70 g/l; color index - 1.4; platelets - $110 \times 10^9/l$; leukocytes - $2.5 \times 10^9/l$; erythrocyte sedimentation rate - 12 mm/h. Your preliminary diagnosis:

- A. hemolytic anemia
 - B. B12-deficiency anemia
 - C. aplastic anemia
 - D. folate deficiency anemia
 - E. iron deficiency anemia
20. Castle's intrinsic factor is formed in:
- A. duodenum
 - B. blood serum
 - C. fundus region of the stomach
 - D. wall of the small intestine
 - E. cardiac region of the stomach