МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ УКРАИНЫ
Харьковский национальный медицинский университет

BASE TEST CROC 2

Diseases of the blood and blood-forming organs
(HEMATOLOGY)

Methodical instructions for English medium students 3–6th course of medical university (III–IV level of accreditation)

БАЗА ТЕСТОВ КРОК 2

БОЛЕЗНИ КРОВИ И КРОВЕТВОРНЫХ ОРГАНОВ
(ГЕМАТОЛОГИЯ)

Для англоязычных студентов 3–6-х курсов медицинских факультетов высших медицинских учебных заведений III–IV уровней аккредитации

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База тестов Крок 2. Болезни крови и кроветворных органов (гематология) / метод. вказ. для англояз. студентов 3–6-х курсов мед. фак-тов высших мед. учебных заведений III–IV уровней аккредитации / сост. Т. В. Ащеулова, О. Н. Ковалева, Н. А. Сафаргалина-Корнилова, Н. Н. Герасимчук. – Харьков : ХНМУ, 2016. – 16 с.

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1. A 15 y.o. patient has a developmental lag, occasionally he has skin yellowing. Objectively: spleen is 16×12×10 cm, cholecystolithiasis, skin ulcer of the lower third of left crus. Blood count: RBC – $3{,}0\times10^{12}$/L, Hb – 90 g/L, C.I. – 1,0; microspherocytosis, reticulocytosis. Total serum bilirubin is 56 mcmol/L, unconjugated – 38 mcmol/L. What therapy will be the most appropriate?

A. Splenectomy. *C. Portacaval shunt.* *E. Omentohepatopexy.*
B. Spleen transplantation. *D. Omentosplenopexy.*

2. 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 uremic syndrome.
C. Thrombotic thrombocytopenic purpura.
D. Heavy metal poisoning.
E. Subacute bacterial endocarditis.

3. 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. *C. Fibrinogen.* *E. Calcium chloride.*
B. Epsilon-aminocapronic acid. *D. Dried blood plasma.*

4. 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 – $5{,}6\times10^{9}$/l, thrombocytes – 220×10^{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. *C. Erythromass.* *E. Vicasol.*
B. Calcium chloride. *D. Aminocapronic acid.*

5. A 16 y.o. teenager complains of weakness, dizziness, sense of heaviness in the left hypochondrium. Objectively: skin and visible mucous membranesare icteric. Steeple skull. Liver +2 cm, the lower pole of spleen is at the level of navel. Blood test: RBC – $2{,}7\times10^{12}$/L, Hb – 88 g/L, WBC – $5{,}6\times10^{9}$/L, ESR – 15 mm/h. What is the most probable reason of bilirubin level change?

A. Increase of unconjugated bilirubin.
B. Increase of conjugated bilirubin.
C. Increase of unconjugated and conjugated bilirubin.
D. Decrease of conjugated bilirubin.
E. Decrease of unconjugated bilirubin.

6. An 18 y.o. woman complains of weakness, dizziness, loss of appetite, menorrhagia. There are petechiae on the skin of the upper extremities. Blood test: Hb – 105 g/L; RBC – $3,2\times10^{12}$/L; colored index – 0,95; thromb. – 20×10^{9}/L. The sedimentation time according to Lee White is 5 min; hemorrhagia duration according to Duke is 8 min, "pinch and tourniquet" test is positive. What is the most probable diagnosis?

A. Idiopathic thrombocytopenic purpura.
B. Hemophilia.
C. Hemorrhagic diathesis.
D. Iron deficiency anemia.
E. Marchiafava-Micheli's disease.

7. An 18 y.o. patient was admitted to the hematologic department with complaints of headache, general weakness, poor appetite, body temperature rise up t° 39 °C, neck swelling. Objectively: skin and mucous membranes are extremely pale, lymph nodes on the both sides of neck are up to 1 cm large, painless. Liver is enlarged +1 cm, painless, spleen +0,5 cm, t°- 38 °C. Blood count: Hb – 98 g/L, RBC – $2,9\times10^{12}$/L, leukocytes – 32×10^{9}/L, stab neutrophils – 0 %, segmental leukocytes – 28 %, monocytes – 2 %, lymphocytes – 39 %, blasts – 31 %, reticulocytes – 31 %, thrombocytes – 120×109/L, ESR – 36 mm/h. What form of leukosis does the patient have?

A. Acute lymphoblastic leukosis.
B. Acute myeloblastic leukosis.
C. Chronic lympholeukosis.
D. Chronic myeloleukosis.
E. Undifferentiated leukosis.

8. An 18 y.o. girl complains of weakness, dizziness, loss of appetite, menorrhagia. There are many-coloured petechiae on the skin of the upper extremities. Blood test: Hb – 105 g/l; RBC – $3,2\times10^{12}$/L; C.I. – 0,95; thromb. – 20×10^{9}/L. The sedimentation time according to Lee White is 5min; hemorrhagia duration according to Duke is 8min, "pinch and tourniquet" test is positive. What is the most probable diagnosis?

A. Idiopathic thrombocytopenic purpura.
B. Hemophilia.
C. Hemorrhagic diathesis.
D. Iron deficiency anemia.
E. Marchiafava-Micheli's disease.

9. An 18-year-oldpatient 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. *C. Blood clot retraction.* *E. Determination of prothrombin time.*
B. Fibrinogen rate. *D. Thrombocyte count.*

10. 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. *C. Diphtheria.* *E. Adenoviral infection.*
B. Acute lymphoid leukosis. *D. Angina.*

11. A 19 y.o. patient was admitted to the hospital with acute destructive appendicitis. He suffers from hemophilia B-type. What antihemophilic medicine should be inclended in pre-and post-operative treatment plan?

A. Fresh frosen plasma. *C. Fresh frosen blood.* *E. Dried plasma.*
B. Cryoprecipitate. *D. Native plasma.*

12. A 19-year-old boy was admitted to a hospital with closed abdominal trauma. In course of operation multiple ruptures of spleen and small intestine were revealed. AP is falling rapidly, it is necessary to perform hemotransfusion. Who can specify the patient's blood group and rhesus compatibility?

A. A doctor of any speciality. *C. A surgeon.* *E. An anaesthesilogist.*
B. A laboratory physician. *D. A traumatologist.*

13. A 19-year-old male patient complains of intense pain in the left knee joint. Objectively: the left knee joint is enlarged, the overlying skin is hyperemic, the joint is painful on palpation. Blood test results: RBC– $3{,}8 \cdot 10^{12}$/l, Hb – 122 g/l, lymphocytes – 7,4×109/l, platelets – 183×10^{9}/l. ESR – 10 mm/h. Duke bleeding time is 4 minutes, Lee-White clotting time – 24 minutes. A-PTT is 89 sec. Rheumatoid factor is negative. What is the most likely diagnosis?

A. Hemophilia, hemarthrosis.
B. Werlhof's disease.
C. Rheumatoid arthritis.
D. Thrombocytopathy.
E. Hemorrhagic vasculitis, articular form.

14. A 20-year-old patient was delivered to a surgical unit complaining of an incised wound on his right forearm that has been bleeding for 1,5 days. Suffers from general weakness, vertigo, cold sweat, opplotentes. Skin and visible mucous membranes are pale. Heart rate is 110/min, BP is 100/70 mm Hg. Blood test: Hb is 100 g/l, erythrocytes $2{,}5 \times 10^{12}$/l. What is the cause for the patient's general condition?

A. Posthemorrhagic anemia.
B. Aplastic anemia.
C. Wound infection.
D. Concomitant disease.
E. Acute thrombophlebitis.

15. During an exam, a 22-year-old female student fainted. She grew up in a family with many children, has a history of frequent acute respiratory infections. Objectively: the patient has pale skin and mucous membranes, splitend hair, brittle nails. Blood test results: RBC – $2,7\times10^{12}$/l, Hb – 75 g/l, color index – 0,7, WBC – $3,2\times10^{9}$/l, platelets – 210×10^{9}/l, ESR – 30 mm/h. Blood serum iron is 6 mmol/l. What is the most likely diagnosis?

A. Iron-deficiency anemia. *C. B_{12}-deficiency anemia.* *E. Aplastic anemia.*
B. Acute leukemia. *D. Vegetative-vascular dystonia.*

16. A 22-year-old vegetarian patient with signs of malnutrition consulted a doctor about smell and taste distortion, angular stomatitis. Objectively: marked blue sclerae. The patient was diagnosed with iron deficiency anemia. What is the dominating clinical syndrome?

A. Sideropenic. *C. Haemologic.* *E. Myelodysplastic.*
B. Anaemic. *D. Haemolytic.*

17. A 24-year-old patient consulted a doctor about enlarged submandibular lymph nodes. Objectively: submandibular, axillary and inguinal lymph nodes are enlarged. Chest radiograph shows enlarged mediastinal lymph nodes. In blood: RBCs – $3,4\times10^{12}$/l, Hb – 100 g/l, colour index – 0,88, thrombocytes – 190 ×109/l, WBCs – $7,5\times10^{9}$/l, eosinophils – 8 %, stab neutrophiles – 2 %, segmented neutrophiles – 67 %, lymphocytes – 23 %, ESR – 22 mm/h. What study is required to verify the cause of lymphadenopathy?

A. Open biopsy of lymph nodes.
B. Ultrasound examination of the abdomen.
C. Mediastinal tomography.
D. Puncture biopsy of lymph nodes.
E. Sternal puncture.

18. A 25 y.o. woman complained of fatigue, hair loss and brittle nails. The examination revealed pallor of skin, Ps- 94/min, BP- 110/70 mm Hg. On blood count: Hb – 90 g/L, RBC – $3,5\times10^{12}$/L, C.I. – 0,7; ESR – 20 mm/h. Serum iron level was 8,7 mcmol/L. What treatment would you initiate?

A. Ferrous sulfate orally. *C. Vitamin B_{12} intramuscularly.* *E. Packed RBCs transfusion.*
B. Iron dextrin injections. *D. Blood transfusion.*

19. A 25-year-old female patient complains of marked weakness, sleepiness, blackouts, dizziness, taste disorder. The patient has a history of menorrhagia. Objectively: the patient has marked weakness, pale skin, cracks in the corners of her mouth, peeling nails, systolic apical murmur. Blood test results: RBC – $3,4\times 10^{12}$/l, Hb- 70 g/l, colour index – 0,75, platelets – 140×10^{9}/l, WBC – $6,2\times10^{9}$/l. What is the most likely diagnosis?

A. Chronic posthemorrhagic anemia.
B. Acute leukemia.
C. Acute posthemorrhagic anemia.
D. B_{12}-deficiency anemia.
E. Werlhof's disease.

20. A 25-year-old patient complains about weakness, dizziness, appearance of haemorrhagic skin rash. She has been suffering from this for a month. Blood count: erythrocytes: $1,0\times10^{12}$/l, Hb – 37 g/l, colour index – 0,9, leukocytes – $1,2\times10^{9}$/l, thrombocytes – 42×10^{9}/l. What diagnostic method will be the most effective?

A. Sternal puncture. *C. Liver biopsy.* *E. Abdominal ultrasound.*
B. Spleen biopsy. *D. Coagulogram.*

21. A 25-year-old patient has been admitted to the hospital with the following problems: weakness, sweating, itching, weight loss, enlarged submandibular, cervical, axillary, inguinal lymph nodes. Objectively: hepatomegaly. Lymph node biopsy revealed giant Berezovsky-Reed-Sternberg-cells, polymorphocellular granuloma made by lymphocytes, reticular cells, neutrophils, eosinophils, fibrous tissue, plasma cells. What is the most likely diagnosis?

A. Lymphogranulomatosis.
B. Lymph node tuberculosis.
C. Lymphoreticulosarcoma.
D. Cancer metastases to lymph nodes.
E. Macofollicular reticulosis.

22. A 27-year-old patient complains of nasal haemorrhages, multiple bruises on the anterior surface of the trunk and extremities, sudden weakness. In blood: Hb – 74 g/l, reticulocytes – 16 %, RBCs – $2,5\times10^{12}$/l, platelets – 30×10^{9}/l, ESR – 25 mm/h. What is the most effective measure for the treatment of thrombocytopenia?

A. Splenectomy. *C. Hemotransfusion.* *E. Vitamin B_{12}.*
B. Iron preparations. *D. Cytostatics.*

23. A 27 y.o. patient has been having for almost a year fatigue, hyperhidrosis, heaviness in the left hypochondrium, especially after meals. Objectively: spleen and liver enlargement. In blood: erythrocytes – $3,2\times10^{12}$/l, Hb – 100 g/l, colour index – 0,87, leukocutes – 100×10^{9}/l, basophils – 7 %, eosinophils – 5 %, myelocytes – 15 %, juveniles – 16 %, stab neutrophils – 10 %, segmentonuclear leukocytes – 45 %, lymphocytes – 2 %, monocytes – 0 %, reticulocytes - 0,3 %, thrombocytes – 400×10^{9}/l, ESR- 25 mm/h. What is the most probable diagnosis?

A. Chronic myeloleukosis. *C. Acute leukosis.* *E. Hepatocirrhosis.*
B. Chronic lympholeukosis. *D. Erythremia.*

24. A 27 year old patient suffers from haemophilia. He was admitted to the hospital with melena and skin pallor. Objectively: Ps- 110 bpm, AP- 100/60mm Hg. In blood: Hb- 80 g/l, erythrocytes - $2,8\cdot10^{12}$/l. What medication should be administered in the first place?

A. Cryoprecipitate.
B. Stored blood.
C. Packed red blood cells.
D. Dicinone.
E. Epsilon-aminocapronic acid.

25. A 28-year-old patient underwent endometrectomy as a result of incomplete abortion. Blood loss was at the rate of 900 ml. It was necessary to start hemotransfusion. After transfusion of 60 ml of erythrocytic mass the patient presented with lumbar pain and fever which resulted in hemotransfusion stoppage. 20 minutes later the patient's condition got worse: she developed adynamia, apparent skin pallor, acrocyanosis, profuse perspiration. t °– 38,5 °C, Ps – 110/min, AP – 70/40 mm Hg. What is the most likely diagnosis?

A. Hemotransfusion shock. *C. Septic shock.* *E. DIC syndrome.*
B. Hemorrhagic shock. *D. Anaphylactic shock.*

26. A 30-year-old male patient complains of inertness, low-grade fever, bleeding gums, frequent quinsies, aching bones. Objectively: the patient has pale skin and mucous membranes, sternalgia, +2 cm liver, +5 cm painless spleen. Blood test results: RBC – $2,7\times10^{12}$/l, Hb – 80 g/l, WBC – 3×10^{9}/l, eosinophils – 4 %, basophils – 5 %, blasts – 4 segmented neutrophils – 17 %, lymphocytes – 29 %, myelocytes – 25 %, promyelocytes – 12 %, monocytes – 2 %, platelets – 80×10^{9}/l, ESR – 57 mm/h. What test should be performed to verify the diagnosis?

A. Sternal puncture. *C. Lymph node biopsy.* *E. Chest X-ray.*
B. Trephine biopsy. *D. Lumbar puncture.*

27. A 30-year-old patient undergoes treatment because of Werlhof's disease. Objectively: the patient is pale, there are petechial haemorrhages on the extension surfaces of forearms. Ps is 92 bpm, AP is 100/60 mm Hg. The lower edge of spleen is at a level with umbilicus. Blood count: erythrocytes: $2,8\times10^{12}$/l, Hb – 90 g/l, Ht – 0,38, thrombocytes – 30×10^{9}/l. The patient is being prepared for splenectomy. What transfusion medium should be chosen in the first place for the preoperational preparation?

A. Thrombocytic mass. *C. Native erythrocytic mass.* *E. Washed erythrocytes.*
B. Stored blood. *D. Erythrocytic suspension.*

28. A 32-year-old welder complains of weakness and fever. His illness started as tonsillitis a month before. On exam, BT of 38,9 °C, RR of 24/min, HR of 100/min, BP of 100/70 mm Hg, hemorrhages on the legs, enlargement of the lymph nodes. CBC shows Hb of 70 g/l, RBC of $2,2\times10^{12}$/l, WBC of $3,0\times10^{9}$/l with 32 % of blasts, 1 % of eosinophiles, 3 % of bands, 36 % of segments, 20 % of lymphocytes, and 8 % of monocytes, ESR of 47 mm/h. What is the cause of anemia?

A. Acute leukemia.
B. Chronic lympholeukemia.
C. Aplastic anema.
D. Vitamin B_{12} -deficiency anemia.
E. Chronic hemolytic anemia.

29. A 33-year-old patient has acute blood loss: erythrocytes – $2{,}2\times10^{12}$/l, Hb – 55 g/l, blood group is A(II)Rh+. Accidentally the patient got a transfusion of donor erythrocyte mass of AB(IV)Rh+group. An hour later the patient became anxious, got abdominal and lumbar pain. Ps – 134 bpm, AP – 100/65 mm Hg, body temperature – 38,6 °C. After catheterization of urinary bladder 12 ml/h of dark brown urine were obtained. What complication is it?

A. Acute renal insufficiency.
B. Cardial shock.
C. Allergic reaction to the donor erythrocyte mass.
D. Citrate intoxication.
E. Toxic infectious shock.

30. A 33 y.o. patient was admitted to the hospital with stopped recurrent peptic ulcer bleeding. On examination he is exhausted, pale. Hb – 77 g/L, Ht – 0,25. Due to anemia there were two attempts of blood transfusion of identical blood group B(II)Rh+. Both attempts were stopped because of anaphylactic reaction. What blood transfusion environment is desirable in this case?

A. Washed erythrocytes.
B. Freshcitrated blood.
C. Erythrocyte mass (native).
D. Erythrocyte emulsion.
E. Erythrocyte mass poor for leucocytes and thrombocytes.

31. A 33 year old male patient was brought to Emergency Department with the signs of cardiovascular collapse: BP – 60/30 mm Hg, Ps – 140 bpm, the skin is pale and moist, diuresis 20 ml/h, Hb – 80 g/l, red blood cell count – $2{,}5\times10^{12}$/l. The reduction of blood volume averages:

A. 30–40 %. *B. 10–15 %.* *C. 15–20 %.* *D. 20–25 %.* *E. 25–30 %.*

32. A 34-year-old patient complains of profuse sweating at night, skin itching, weight loss (9 kg within the last 3 months). Examination revealed malnutrition, skin pallor. Palpation of neck and inguinal areas revealed dense elastic lymph nodes for about 1 cm in diameter, nonmobile, non-adhering to skin. What is the most probable diagnosis?

A. Lymphogranulomatosis. *C. Lymphosarcoma.* *E. Cancer metastases.*
B. Chronic lymphadenitis. *D. Burkitt's lymphoma.*

33. A 35 y.o. woman is suspected of aplastic anemia. The bone marrow punction has been administered with the diagnostic purpose. What changes in the marrow punctatum are suggested?

A. Replacement of marrow elements with adipose tissue.
B. Replacement of marrow elements with fibrous tissue.
C. Prevalence of megaloblasts.
D. Presence of blast cells.
E. Absolute lymphocytosis.

34. A 36-year-old female patient complains of bruises on the body, gingival haemorrhage, general weakness. A month ago she had a severe domestic poisoning with some pesticide (the patient can not remember the name). She has a 7-year record of working in contact with petroleum products, particularly benzene. In blood: RBCs – $3{,}2\times10^{12}$/l, WBCs – $2{,}7\times10^{9}$/l, thrombocytes – 70×10^{9}/l. What is the most likely pathology?

A. Benzene intoxication.
B. Organophosphorus pesticide intoxication.
C. Organochlorine pesticide Intoxication.
D. Mercury-containing pesticide intoxication.
E. Chronic fatigue Syndrome.

35. A 37-year-old patient was delivered to a hospital in unconscious state. He got a closed abdominal injury. He is suspected to have internal haemorrhage, intra-abdominal injury. He is being prepared an emergency operation. By means of standard sera a physician determined his blood group and got the following results: 0(I) – no agglutination, A(II) – no agglutination, B(III) – no agglutination. What is the patient's blood group?

A. 0(I). *B. A(II).* *C. B(III).* *D. AB(IV).* *E. –.*

36. A 38 year old patient complains about inertness, subfebrile temperature, enlargement of lymph nodes, nasal haemorrhages, bone pain. Objectively: the patient's skin and mucous membranes are pale, palpation revealed enlarged painless lymph nodes; sternalgia; liver was enlarged by 2 cm, spleen - by 5 cm, painless. In blood: erythrocytes – $2{,}7\times10^{12}$/l, Hb – 84 g/l, leukocytes – 58×10^{9}/l, eosinophils – 1 %, stab neutrophils – 2 %, segmented neutrophils – 12 %, lymphocytes – 83 %, lymphoblasts – 2 %, smudge cells; ESR – 57 mm/h. What is the most probable diagnosis?

A. Chronic lymphatic leukemia. *C. Acute lymphatic leukemia.* *E. Lymphogranulomatosis.*
B. Chronic myeloleukemia. *D. Acute myeloleukemia.*

37. A 42 y.o. man died in a road accident after the haemorrhage on the site, due to acute hemorrhagic anemia. What minimum percentage volume of the total blood loss would result in death at acute haemorrhage?

A. 25–30 %. *B. 6–9 %.* *C. 10–14 %.* *D. 15–20 %* *E. 35–50 %.*

38. A 42-year-old patient with acute haemorrhage and class III blood loss underwent blood transfusion and got 1,8 l of preserved blood and erythromass of the same group and Rh. After the transfusion the patient complained of unpleasant retrosternal sensations, his arterial pressure dropped to 100/60 mm Hg, there appeared convulsions. Blood serum calcium was at the rate of 1,7 millimole/liter. What is the mechanism of this complication development?

A. Citrate binds calcium ions, hypocalcemia impairs myocardial function.
B. Citrate is cardiotoxic and nephrotoxic.
C. Citrate causes the development of metabolic acidosis.
D. The increased citrate rate causes convulsions.
E. Citrate binds potassium causing severe hypokalemia.

39. A 42 y.o. patient complains of weakness, heartbeat, nasal hemorrhages, cutaneous hemorrhages. His condition has been worsening progressively for a month. Objectively: grave condition, the extremities and body skin has spotted and petechial hemorrhages, lymph nodes are not palpable, Ps – 116/min, liver is +2 cm enlarged, spleen is not palpable. Blood has evident pancytopenia. What disease should you think about first of all?

A. Hypoplastic anemia. *C. Werlhof's disease.* *E. Acute agranulocytosis.*
B. Acute leukosis. *D. Hemorrhagic vasculitis.*

40. A 42-year-old patient complains of back pain, darkened urine, general weakness, dizziness that occurred after treating a cold with aspirin and ampicillin. Objectively: the patient is pale, with subicteric sclerae. HR – 98 bpm. Liver – +2 cm, spleen – +3 cm. In blood: RBCs – $2,6\times10^{12}$/l, Hb – 60 g/l, CI – 0,9, WBCs – $9,4\times10^{9}$/l, basophils – 0,5 %, eosinophils – 3 %, stab neutrophils – 6 % segmented neutrophils – 58 %, lymphocytes – 25 %, monocytes – 7 %, ESR – 38 mm/hour, reticulocytes – 24 %. Total bilirubin – 38 millimole/l. What complication occurred in the patient?

A. Acquired hemolytic anemia. *C. Cholelithiasis.* *E. Paroxysmal nocturnal hemoglobinuria.*
B. Toxic hepatitis. *D. Agranulocytosis.*

41. A 42-year-old female lives in the basement, is unemployed, undernourished. She complains of having general weakness, hair loss, brittle nails for six months, likes to eat chalk. Objectively: the patient is emaciated, pale, has dry skin. Peripheral lymph nodes are not enlarged. Liver is +1,5 cm. In blood: RBCs – $1,8\times10^{12}$/l, Hb – 62 g/l, colour index – 0,78, reticulocytes – 0,5 ‰, ESR – 18 mm/h. Leukogram exhibits no pathology. What is a provisional diagnosis?

A. Nutritional iron deficiency anaemia.
B. Chronic hepatitis.
C. B_{12}-deficiency anaemia.
D. Acquired haemolytic anaemia.
E. Congenital haemolytic anaemia.

42. A 42-year-oldwoman complains about bruises on her both legs and prolonged menstruation; general weakness, tinnitus cerebri. Objectively: multiple macular haemorrhages on the legs and body. The patient presents with tachypnoe, tachycardia, systolic murmur in all auscultatory points. AP – 75/50 mm Hg. Blood count: RBC – $1,9\times10^{12}$/l, Hb – 60 g/l, colour index – 0,9, WBC – $6,5\times10^{9}$/l, thrombocytes – 20×10^{9}/l, ESR – 12 mm/h. Duke bleeding time – 12 minutes. Bone marrow analysis revealed plenty of juvenile immature forms of megacaryocytes without signs of thrombocyte pinch-off. What is the most likely diagnosis?

A. True thrombocytopenic purpura.
B. Type A haemophilia.
C. Willebrand's disease.
D. Acute megacaryoblastic leukemia.
E. Type B haemophilia.

43. Medical examination of a 43 y.o. man revealed objectively painless of skin and mucous membranes, smoothness of lingual papillas, transverse striation of nails, fissures in the mouth corners, tachycardia. Hemoglobin content amounts 90 g/l; there are anisocytosis, poikilocytosis. The most probable causative agent of this condition is deficiency of the following microelement:

A. Iron. *B. Copper.* *C. Zinc.* *D. Magnesium.* *E. Selenium.*

44. A 43-year-old male patient undergoing treatment for peptic ulcer complains of weakness, dizziness, coffee-ground vomiting, melena. After administration of haemostatics the patient's condition has not improved, fresh blood has shown up in the vomit, skin bruises of different sizes have appeared. In blood: thrombocytes – 50×10^9/l, Lee-White clotting time – 35 minutes, APTT – 80 seconds. In this case it is most rational to administer the following preparation:

A. Fresh frozen plasma. *C. Fibrinogen.* *E. Vikasol.*

B. Heparin. *D. Rheopolyglucinum.*

45. A 46 y.o. patient complains of skin itch, sweating, especially at night, body temperature rise up t^o $38,6^0$ C. Objectively: chest skin has marks of scratching, supraclavicular lymph nodes are as big as a pigeon egg, they are not matted together with skin. What test is the most reasonable?

A. Punction of an enlarged lymph node.

B. Common blood count.

C. Plan radiography of thorax.

D. Immunogram.

E. Whole protein and protein fractions .

46. A 50-year-old patient has been admitted to the clinics with atrophic gastritis. Blood count: erythrocytes – $3,8\times10^{12}$/l, Hb – 68 g/l, c.i. – 1, macroanisocytosis, poikilocytosis. There is megaloblastic type of haemopoesis. A number of leukocytes, reticulocytes and thrombocytes is reduced. Which pathology is suspected?

A. B_{12}-deficiency anemia.

B. Irondeficiency anemia.

C. Hemolytic anemia.

D. Post-hemorrhagic anemia.

E. Thalassaemia.

47. A 52 y.o. woman complains of weakness, painful itching after washing and bathing, sensation of heaviness in the head. On examination: hyperemia of skin of face, neck, extremities. AP- 180/100 mm Hg. Spleen is 4 cm below the rib arch edge. What is the most probable diagnosis?

A. Erythremia.

B. Essential hypertension.

C. Dermatomyositis.

D. Allergic dermatitis.

E. Systemic sclerodermia.

48. A 54 y.o. woman complains of increasing fatigue and easy bruising of 3 weeks' duration. Physical findings included pale, scattered ecchymoses and petechiae and mild hepatosplenomegaly. In blood: RBC – $2{,}5\times10^{12}$/L; Hb – 73 g/L; HCT – 20 %; PLT – 23×10^{9}/L; and WBC - 162×10^{9}/L with 82 % blasts, that contained Auric rods; peroxidase stain was positive. What is the most probable diagnosis?

A. Acute leukemia. *C. Thrombocytopenia.* *E. Megaloblastic anemia.*
B. Chronic leukemia. *D. Hemolytic anemia.*

49. A 56 y.o. patient ill with cholecystectomy suddenly had an intense hemorrhage. She needs blood transfusion. Her blood group is AB(IV)Rh−. Hemotransfusion station doesn't dispose of this group. What group of donors can be involved?

A. Donors of rare blood groups.
B. Donors of active group.
C. Relatives.
D. Emergency donors.
E. Reserve donors.

50. A 58 y.o. male patient is examined by a physician and suffers from general weakness, fatigue, mild pain in the left subcostal area, sometimes frequent painful urination. Moderate splenomegaly has been revealed. Blood test: neutrophilic leukocytosis with the progress to myelocyte; basophil – 2 %; eosinophil – 5 %. There is a urate crystals in urine, erythrocyte – 2–3 in the field of vision. What is the preliminary diagnosis?

A. Chronic myeloleucosis.
B. Leukemoid reaction.
C. Lymphogranulomatosis.
D. Hepar cirrhosis.
E. Urolithiasis.

51. A 58-year-old female patient complains of spontaneous bruises, weakness, bleeding gums, dizziness. Objectively: the mucous membranes and skin are pale with numerous hemorrhages of various time of origin. Lymph nodes are not enlarged. Ps – 100/min, AP – 110/70 mm Hg. There are no changes of internal organs. Blood test results: RBC – $3{,}0\times10^{12}$/l, Hb – 92 g/l, color index – 0,9, anisocytosis, poikilocytosis, WBC – 10×10^{9}/l, eosinophils – 2 %, stab neutrophils – 12 %, segmented neutrophils – 68 %, lymphocytes – 11 %, monocytes – 7 %, ESR – 12 mm/h. What laboratory test is to be determined next for making a diagnosis?

A. Platelets. *C. Clotting time.* *E. Fibrinogen.*
B. Reticulocytes. *D. Osmotic resistance of erythrocytes.*

52. A 60 y.o. patient complains of weakness, dizziness, heaviness in the upper part of abdomen, paresthesia of toes and fingers. Objectively: skin icteritiousness, tongue is crimson, smooth. Hepatomegaly. In blood: Hb – 90 g/l, erythrocytes – $2{,}3\times10^{12}$/l, reticulocytes - 0,2 %; color index – 1,2, macrocytosis; Jolly's bodies, Cabot's ring bodies. What medication is the most appropriate for treatment?

A. Vitamin B_{12}. *C. Packed red blood cells.* *E. Dyspherol.*
B. Feroplex. *D. Prednisolone.*

53. A 60-year-old woman started feeling weakness, vertigo, rapid fatigability during the last year. Recently there have been dyspnea and paresthesia observed. Objectively: skin and mucous membranes are pale and icteric. Lingual papillae are smoothed out. Liver and spleen are situated at the edge of costal arch. Blood test: Hb – 70 g/l, erythrocytes – $1{,}7\times10^{12}$/l, blood color index – 1,2, macrocytes. What drug can be prescribed on pathogenetic grounds?

A. Vitamin B_{12}. *C. Ascorbic acid.* *E. Vitamin B_1.*
B. Vitamin B_6. *D. Iron preparations.*

54. A 60-year-old man complains of fever, significant weight loss, bone and joint pain, bleeding gums. Examination revealed paleness, lymphadenopathy, hepato- and splenomegaly. CBC: WBC – 270×10^9/l with 13 % lymphocytes, 1 % monocytes, 21 % basophiles, 29 % neutrophils, 9 % blasts, 12 % promyelocytes, 12 % myelocytes, 2 % metamyelocytes, 1 % eosinophils. ESR – 22 mm/h. Name the drug for treatment:

A. Myelosan. *C. Cytosar.* *E. Blood transfusion.*
B. Prednisolone. *D. Vinblastine.*

55. A 62-year-old patient complaining of enlargement of cervical, supraclavicular and axillary lymph nodes, subfebrile temperature for the last 3 months has been admitted to a hospital. In blood: WBCs – 64×10^9/l, lymphocytes – 72 %. What method of study should be used to specify the diagnosis?

A. Myelogram. *C. Lymphoscintigraphy.* *E. Thermography.*
B. Lymphography. *D. X-rays.*

56. A 63-year-old patient complained about pain in the lumbar area. He underwent a course of physiological treatment on account of radiculitis but this led to no improvement of his condition. R-graphy of spinal column and pelvic bones revealed osteoporosis and serious bone defects. Blood analysis revealed moderate normochromic anaemia, urine analysis revealed proteinuria. Whole blood protein made up 10,7 g/l. What disease should be suspected?

A. Myelomatosis.
B. Urolithiasis.
C. Acute radiculitis.
D. Metastases in bones.
E. Systemic osteoporosis.

57. A man, aged 68, complains of tiredness, sweating, enlargement of cervical, submaxillary and axillary lymph nodes. Blood test: WBC – 35×10^9/L, lymphocytes – 60 %, Botkin and Gumprecht bodies, level of haemoglobin and quantity of thrombocytes is normal. Myelogram showed 40 % of lymphocytes. What is the most probable diagnosis?

A. Chronic lympholeucosis. *C. Lymphogranulomatosis.* *E. Tuberculous lymphadenitis.*
B. Chronic myeloleucosis. *D. Acute leucosis.*

58. A patient who works as a nightman was diagnosed with of chronic arsenious intoxication. What form of anemia is characteristic for this disease?

A. Haemolytic anemia. *C. Iron deficiency anemia.* *E. Normochromic anemia.*
B. Aplastic anemia. *D. Hyper sideric anemia.*

59. To replace the blood loss replacement 1000 ml of the same group of Rhesus-compatible donated blood was transfused to the patient. The blood was conserved by sodium citrate. At the end of hemotransfusion there appeared excitement, pale skin, tachycardia, muscles cramps in the patient. What complication should be suspected?

A. Citrate intoxication. *C. Allergic reaction.* *E. Pyrogenous reaction.*
B. Citrate shock. *D. Anaphylactic shock.*

60. Against the background of angina a patient has developed pain in tubular bones. Examination revealed generalized enlargement of lymph nodes, hepatolienalsyndrome,sternalgia.Inblood: RBCs – $3{,}6\times10^{12}$/l, Hb – 87 g/l, thrombocytes – 45×109/l, WBCs – 13×10^9/l, blasts – 87 %, stab neutrophils – 1 %, segmented neutrophils – 7 %, lymphocytes – 5 %, ESR – 55 mm/h. What is the most likely diagnosis?

A. Acute leukemia.
B. Erythremia.
C. Chronic lymphocytic leukemia.
D. Chronic myeloid leukemia.
E. Multiple myeloma.

61. A patient complains of fatigue, lack of appetite, pain and burning sensation in the tongue, numbness of the distal limbs, diarrhea. Objectively: pale skin with lemon-yellow tint, face puffiness, brown pigmentation in the form of a "butterfly", bright red areas on the tongue. The liver is 3 cm below the costal margin, soft. Blood count: RBCs – $1{,}5\times10^{12}$/l, colour index – 1,2, WBCs – $3{,}8\times10^9$/l, thrombocytes – 180×10^9/l, eosinophils – 0 %, stab neutrophils – 1 %, segmented neutrophils – 58 %, lymphocytes – 38 % monocytes – 3 %, RBC macrocytosis. ESR – 28 mm/h. What diagnosis are these presentation typical for?

A. B12-deficiency anemia.
B. Iron deficiency anemia.
C. Aplastic anemia.
D. Acute erythromyelosis.
E. Chronic adrenal failure.

62. A 24-year-old female teacher complains of dizziness and heart pain irradiating to the left nipple. Pains not associated with physical activity and cannot be relieved by nitroglycerin, it abates after taking Valocordin and lasts an hour or more. The patient has a nearly 2-year history of this disease. Objectively: Ps-76 bpm. AP – 110/70 mm Hg. Heart borders are normal, heart sounds are clear. The ECG shows respiratory arrhythmia. Radiograph of the cervicothoracic spine shows no pathology. Lungs, abdomen are unremarkable. What changes in blood formula can be expected?

A. No changes. *C. Thrombocytopenia.* *E. Increased ESR.*
B. Leukocytosis. *D. Leukemic hiatus.*

63. During the periodic medical examination an assembly fitter (works on soldering details) didn't report any health problems. Closer examination revealed signs of asthenic-vegetative syndrome. Blood included red blood cells with basophilic aggregations and a somewhat higher number of reticulocytes, urine had a high concentration of deltaaminolevulinic acid. The complex of symptoms indicates the initial stage of chronic intoxication with:

A. Lead. *B. Manganese.* *C. Mercury.* *D. Tin.* *E. Ethanol.*

64. Blood typing resulted in positive isohemagglutination reaction with standard sera of A(II) and B(III) groups and negative reaction with sera of 0(I) and AB(IV) groups. What is this result indicative of?

A. Faulty standard sera.
B. The first blood group.
C. The second blood group.
D. The third blood group.
E. The fourth blood group.

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