HEMOLYTIC ANEMIAS

Single choice tests

1. Select the clinical manifestation that is <u>not</u> characteristic for the hemolytic crisis:
   A. decrease of the red blood cell count
   B. reticulocytosis
   C. jaundice
   D. hyperbilirubinemia
   E. decreased serum iron levels

2. Select the most informative diagnostic criteria for intravascular hemolysis:
   A. increased unconjugated (indirect) bilirubin levels
   B. reticulocytosis
   C. jaundice
   D. positive serum free hemoglobin test
   E. increased Mean Corpuscular Volume in the complete blood count

3. Select the manifestation that is <u>not</u> characteristic for extravascular hemolysis:
   A. spherocytes, microcytes
   B. increased unconjugated (indirect) bilirubin levels
   C. increased conjugated (direct) bilirubin levels
   D. reticulocytosis
   E. splenomegaly

4. What is the most characeristic morphological feature of red blood cells in microspherocytosis?
   A. increased diameter
   B. increased diameter, but decreased thickness of the cell membrane
   C. decreased diameter, but increased thickness of the cell membrane
   D. decreased diameter, but decreased thickness of the cell membrane
   E. red blood cells have normal morphology

5. What is the most characteristic finding in the bone marrow during the hemolytic crisis in patients with microspherocytosis?
   A. inhibition of the erythroid marrow
   B. hyperplasia of all bone marrow lines
   C. no changes
   D. hyperplasia of the erythroid marrow
   E. presence of megakaryocytes

6. Select the clinical manifestation that is <u>not</u> characteristic for the hemolytic crisis in patients with microspherocytosis:
A. pallor
B. jaundice
C. splenomegaly
D. enlargement of peripheral lymph nodes
E. normal color of the feces

7. Select the manifestation that is <u>not</u> characteristic for microspherocytosis:
A. anemia
B. reticulocytosis
C. microspherocytes in the peripheral blood film
D. abnormal red blood cells named “target cells” in the peripheral blood film
E. increased erythrocyte osmotic fragility

8. Select the manifestation that is <u>not</u> characteristic for the thalassemia trait:
A. anemia
B. abnormal red blood cells named “target cells” in the peripheral blood film

C. increased serum iron levels
D. hypochromic anemia
E. hyperchromic anemia

9. Select the diagnostic criteria found in patients with sickle cell disease:
   A. pathological hemoglobin variants
   B. sickle-shaped (crescent shaped) red blood cells
   C. increased levels of the fetal hemoglobin (hemoglobin F, HbF)
   D. hypovolemic shock in the period of hemolytic crisis
   E. vaso-occlusive crisis

10. Drug induced acquired hemolytic anemia has the following mechanism of development:
   A. autoimmune
   B. heteroimmune
   C. isoimmune
   D. transimmune
   E. non-immune

11. Select the first line treatment of immune hemolytic anemia:
   A. substitution therapy
   B. corticosteroids
   C. splenectomy
   D. cytostatics
   E. therapy with antiplatelet drugs (antiaggregants)

12. Select the recommendation that is <u>not</u> indicated in the treatment of thalassemia:
   A. corticosteroids
   B. red blood cell transfusion
   C. Desferal (deferoxamine mesylate USP, iron-chelating agent)
   D. vitamin supplements
   E. stem cell transplantation

13. Select the recommendation that is <u>not</u> indicated in the treatment of hereditary spherocytosis:
   A. regular red blood cell transfusion
   B. red blood cell transfusion when hemoglobin levels are below 60 g/l
   C. splenectomy
   D. treatment with Desferal (deferoxamine mesylate USP, iron-chelating agent)
   E. symptomatic therapy

14. Select the most efficient method of treatment in hereditary spherocytosis:
   A. red blood cell transfusion
   B. treatment with Desferal (deferoxamine mesylate USP, iron-chelating agent)
   C. splenectomy
   D. symptomatic therapy
   E. vitamin supplements

15. Select the recommendation that is contraindicated in the treatment of hemolytic anemia:
   A. vitamin supplements
   B. iron supplements
   C. treatment with Desferal (deferoxamine mesylate USP, iron-chelating agent)
   D. red blood cell transfusion
   E. stem cell transplantation

Multiple choice tests

1. Enumerate the diagnostic criteria for hemolytic crisis:
   A. reticulocytopenia
   B. reduced red blood cells and hemoglobin levels
   C. reticulocytosis
   D. jaundice
   E. increased unconjugated (indirect) bilirubin levels

2. Select correct affirmations for intravascular hemolysis:
A. can be caused by Disseminated Intravascular Coagulation syndrome
B. can be caused by blood transfusions between incompatible groups
C. positive serum free hemoglobin test
D. microspherocytes and spherocytes in the peripheral blood film
E. increased unconjugated (indirect) bilirubin levels

3. Enumerate correct affirmations for hereditary spherocytosis:
A. it is an hemolytic anemia with intravascular hemolysis
B. it is an hemolytic anemia with extravascular hemolysis
C. abnormal red blood cells named “target cells” in the peripheral blood film
D. it is a microcytic anemia
E. shift to the left of the red cell histogram (Price-Jones curve)

4. Enumerate correct affirmations for hereditary spherocytosis:
A. it is a disorder of the erythrocyte membrane
B. nasal bleedings
C. autosomal dominant disorder
D. splenomegaly
E. decreased erythrocyte osmotic fragility

5. Enumerate clinical signs characteristic for the hemolytic crisis in hereditary spherocytosis:
A. pallor of the skin and mucosae
B. jaundice
C. enlargement of the spleen
D. enlargement of peripheral lymph nodes
E. nasal bleedings

6. Enumerate clinical signs characteristic for the hereditary spherocytosis:
   A. hypoplasia of the erythroid marrow
   B. decreased erythrocyte osmotic fragility
   C. hypochromia
   D. microspherocytes in the peripheral blood film
   E. shift to the right of the red cell histogram (Price-Jones curve)

7. Enumerate signs characteristic for Beta-thalassemia:
   A. decreased red blood cells and hemoglobin levels
   B. abnormal red blood cells named “target cells” in the peripheral blood film
   C. increased serum iron levels
   D. hyperchromia
   E. decreased serum iron levels

8. Enumerate correct treatment indications for thalassemia traits:
A. red blood cells transfusion
B. Desferal (deferoxamine mesylate USP, iron-chelating agent)
C. Splenectomy
D. Prednisone
E. Iron supplements

9. Enumerate correct clinical signs in sickle cell anemia:
A. anemia
B. jaundice
C. vaso-occlusive crisis
D. aplastic crisis
E. bleeding

10. Enumerate correct affirmations for the hereditary spherocytosis:
A. the diseases is diagnosed at an older age
B. predisposition to formation of gallstones
C. microspherocytes in the peripheral blood film
D. abnormal red blood cells named “target cells” in the peripheral blood film
E. it is a disorder of the erythrocyte membrane protein

11. Enumerate signs characteristic for Beta-thalassemia:
A. increased levels of the fetal hemoglobin (hemoglobin F, HbF)
B. it is a disorder of hemoglobin chains synthesis
C. hypochromia
D. decreased serum iron levels
E. abnormal red blood cells named “target cells” in the peripheral blood film

12. Enumerate correct affirmations for hemolytic anemia due to glucose-6-phosphate dehydrogenase deficiency (G6PD):
A. the hemolytic crisis develops after administration of some drugs
B. intravascular hemolysis
C. extravascular hemolysis
D. dark colored urine
E. increased unconjugated (indirect) bilirubin levels

13. Enumerate characteristic signs for autoimmune hemolytic anemia:
A. insidious onset
B. acute onset
C. abdominal pain, fever, dark colored urine
D. negative result of the direct Coombs test
E. positive results of Prednisone treatment

14. Enumerate correct affirmations for the sickle cell anemia:
A. reticulocytosis
B. sickle-shaped red blood cells in the peripheral blood film
C. abnormal red blood cells named “target cells” in the peripheral blood film
D. increased levels of the fetal hemoglobin (hemoglobin F, HbF)
E. microcytes in the peripheral blood film

15. Select correct treatment indications in hereditary spherocytosis:
A. regular red blood cell transfusions
B. red blood cell transfusion when hemoglobin levels are below 60 g/l
C. splenectomy
D. iron supplements
E. symptomatic therapy

16. Select correct treatment indications in Beta-thalassemia:
A. red blood cell transfusions
B. stem cells transplantation
C. bone marrow transplantation
D. treatment with Desferal (deferoxamine mesylate USP, iron-chelating agent)
E. iron supplements

17. Enumerate correct affirmations for hemolytic crisis in hereditary anemia due to glucose-6-phosphate dehydrogenase deficiency (G6PD):

A. the hemolytic crisis develops after administration of some drugs
B. onset during the infection episode
C. marked reticulocytosis
D. positive serum free hemoglobin test
E. hypochromia

18. Enumerate correct signs of intravascular hemolysis:

A. spontaneous agglutination of red cells
B. hemoglobinemia
C. hemoglobinuria
D. hepatosplenomegaly
E. decreased red cell count

19. Enumerate correct affirmations for the hemolytic crisis in patients with hereditary spherocytosis:

A. pallor of the skin
B. jaundice
C. hepatomegaly
D. splenomegaly
E. nasal bleeding

20. Enumerate correct affirmations for hemolytic anemia due to glucose-6-phosphate dehydrogenase deficiency (G6PD):

A. more frequent in males
B. hemolytic crisis develops in 48 hours after drug administration
C. splenectomy is an efficient treatment method
D. intravascular hemolysis
E. hemoglobinuria

21. Enumerate correct affirmations for thalassemia traits:

A. radiologic aspect of „brush” („hedgehog” sign) of skull flat bones
B. skull in the form of „tower”
C. child’s failure to thrive
D. hypoplasia of red bone marrow
E. frequent kidneys and gallbladder stones formation

HEMOLYTIC ANEMIAS

Single choice tests

1-E

2-D
3-C
4-C
5-D
6-D
7-D
8-E
9-C
10-B
11-B
12-A
13-A
14-C
15-B

Multiple choice tests

1-BCDE
2-ABCE
3-BDE
4-ACDE
5-ABC
6-BD
7-ABC
8-ABC
9-ABCD
10-BCE
11-ABCE
12-ABDE
13-BCE
14-AB
15-BCE
16-ABCD
17-ABCD
18-ABCD
19-ABD
20-ABDE
21-ABCE