

Topic of the lesson: PATHOPHYSIOLOGY OF HEMOSTASIS SYSTEM

Aim: To learn the etiology and pathogenesis of basic disorders of hemostasis system (hemorrhagic syndrome, thrombosis and DIC syndrome), the meaning of hemostasis system disorders in pathogenesis of diseases.

Main questions to the topic of the lesson:

1. Classification of disorders of the hemostasis system according to etiology and pathogenesis.
2. Mechanisms of hypercoagulation statuses, definition of thrombosis conception: etiology and pathogenesis, consequence
3. Mechanism of the hemorrhagic syndrome development.
4. Thrombocytopenia, thrombocytopathy: etiology and pathogenesis.
5. DIC syndrome: etiology, stages, their pathogenesis.

Literature: 1. General and clinical pathophysiology/Gozhenko A.I. - Odessa National Medical University. - 2002. - p. 124-143
2. Pathophysiology/Gozhenko A.I., Gurkalova I.P. - Odessa National Medical University. - 2003. - p. 215-223

CONTROL QUESTIONS

№	Instructions to the execution of the task	Answers of the students with additions at the lessons
1.	What is the system of hemostasis? What links has his system? a, b, c, d	
2.	Classification of hemostasis disorders- a, b, c	

3.	Hemorrhagic diathesis- is... Classification I - a, b, c II- a	
4.	Thrombocytopenia – is Mechanism of their development a, b, c	
5.	Thrombocytopathy Classification I - a, b II - a, b, c III - a, b, c, d	
6.	What is the origin of coagulopathy?	
7.	Mechanisms of increasing of anticoagulative system activity a, b	
8.	Factors that determine the activity of the fibrinolysis system- a, b	

9.	DIC syndrome: - is...	
10.	Thrombophilia- is	

TASK 1. What is the etiology and pathogenesis of inflammatory angiopathy?

1. _____
2. _____
3. _____

The main role in pathogenesis has:

1. _____
2. _____
3. _____

The consequence is:

1. _____
2. _____
3. _____

TASK 2. What is the etiology and pathogenesis of dysontogenetic angiopathy?

Etiological factors:

1. _____
2. _____
3. _____
4. _____

In the pathogenesis take place:

1. _____
2. _____
3. _____

TASK 3. What is pathogenesis of hemostasis disorders in conditions of the thrombocytopenia?

1. _____
- . _____
2. _____
- . _____
3. _____
- . _____
4. _____
- . _____

TASK 4. Give the examples of thrombocytopenia with different mechanisms of hemostasis disorders

1. _____
- . _____
2. _____
- . _____

3. _____
.
4. _____
.

TASK 5. Causes of I phase of coagulation disorder?

1. _____
.
2. _____
.
3. _____
.

TASK 6. Causes of II phase of coagulation disorder?

1. _____
.
2. _____
.

TASK 7. Causes of III phase of coagulation disorder?

1. _____
.
.
2. _____

3. _____
.
4. _____
.
.

TASK 8. Give the characteristic of the DIC syndrome
I phase-

II phase-

TASK 9. *Solve clinic-patophysiological tasks.*

Task 1. A Patient K. suffers of chronic lympholeukemia. On examination: erythrocytes 2,7 T/l, Hb- 5,2 mmol/l, leucocytes- 23 G/l, thrombocytes- 60 G/l. Explain etiology and pathogenesis of coagulation disorders?

Task 2.

A Patient N. was hospitalized for the treatment of rheumatism. He uses nonsteroidal anti-inflammatory drugs- acetylsalicylic acid in big doses. Extraction of tooth was complicated with long term hemorrhagia. Explain the pathogenesis of the hemorrhagic syndrome.

Task 3.

A 65 year old woman who keeps a bed rest after the chest [intrathoracic] injury has apparent varix dilatation of shank, risk of thrombosis. What is the pathogenetic mechanism of thrombosis development?

TASK 10. *Solve the tests for self control*

1. After the application of tourniquet on the skin of forearm of the patient appears punctuate hemorrhages. With disorder of what blood cells is it connected?

- A. neutrophils
- B. macrophages
- C. erythrocytes
- D. basophiles
- E. thrombocytes

2. It has been revealed that a patient who was delivered to the clinic after the autocatastrophe has on the second day the haemorrhages out of minute vessel. He has hypoprothrombinemia, hypofibrinogenemia and thrombocytopenia. What path process has a patient?

- A. hypocoagulation
- B. hypercoagulation
- C. DIC syndrome
- D. thrombosis
- E. thrombocytopenia

3. A 60 –years- old patient has a diagnose myocardial infarction of the left ventricle. What disorders in the hemostasis system caused the infarction development?

- A. hemophilia
- B. hemorrhagic diathesis
- C. angiopathy
- D. thrombosis
- E. thrombocytopathy

4. Parents of a 4- year -old boy signed that he suffers from frequent nosebleed and spacious haematoms. The eruption of teeth was attended by fast termed hemorrhages. After fallings- posttraumatic inflammations of knee and ulnas joint. What path process has a patient?

- A. hemorrhagic syndrome
- B. thrombotic syndrome
- C. DIC- syndrome
- D. hemophilia
- E. leukemia

5. A 50 -year -old woman with decompensate valvular incompetence has the operation of the aortic valve replacement. After 2 days she died. By autopsy: many focal hemorrhages of the brain and other organs. How can you explain such disorders?

- A. coagulopathy
- B. thrombocytopathy
- C. thrombocytopenia
- D. hemorrhagic diathesis
- E. thrombosis

6. A 38- year -old patient suffers from chronic alcoholism. He was delivered to clinic because he had gastrointestinal hemorrhage. What is the main link of pathogenesis of this hemorrhagia?

- A. angiopathy
- B. hypovitaminosis K
- C. thrombocytopathy
- D. thrombocytosis
- E. leukemia

7. A patient Z. has a chronic lympholeukemia. On blood analysis:

erythrocytes 2,5T/l, leucocytes- 28G/l, thrombocytes- 35/l. What is the pathogenetic mechanism of bleeding?

A. disorder of the thrombocyte-vascular hemostasis
B. increase of fibrinolytic activity

C. decrease of prothrombin level
D. increase of antithrombine III level
E. angiopathy

For notes
