

Questions for test –control on the theme «Pathophysiology of microcirculatory system»

1. Choose the endogenous embolisms:

1. Microbial embolism
2. Tissue embolism
3. Tumor embolism
4. Gas embolism
5. Air embolism

2. Choose the exogenous embolisms:

1. Air embolism
2. Tissue embolism
3. Microbial embolism
4. Tumor embolism
5. Thromboembolism

3. Point out the consequences of embolisms:

1. Ischemia
2. Post ischemic stasis
3. Venous hyperemia
4. Arterial hyperemia
5. Infarction

4. Point out the consequences of the action by emboli from « left heart» or pulmonary veins:

1. Infarction of brain
2. Myocardial infarction
3. Infarction of lungs
4. Infarction of liver

5. Choose the organs with absolute sufficient collaterals:

1. Liver
2. Spleen
3. Kidneys
4. Small intestine
5. Heart

6. Choose the organs and tissues with absolute insufficient collaterals:

1. Extremities
2. Retina
3. Lungs
4. Heart
5. Region of an average brain artery

7. Point out the organs with relative sufficient collaterals:

1. Spleen
2. Liver
3. Kidneys
4. Heart

3. What is the outer diameter of the vessels denoted as «microcirculatory»?

1. 2-20 μm
2. 20-100 μm
3. 100-150 μm
4. $\geq 500 \mu\text{m}$

4. . Point out the pathological arterial hyperemia:

1. The post ischemic arterial hyperemia
2. The work arterial hyperemia during functional activity of organ
3. The inflammatory arterial hyperemia
4. The reflector arterial hyperemia during effect of adequate doses of irritants
5. The collateral arterial hyperemia due to difficulty of a blood flow in the main artery

- 5. Point out the physiological arterial hyperemia:**
 1. The post ischemic arterial hyperemia
 2. The work arterial hyperemia
 3. The vacating arterial hyperemia
 4. The conditional reflex arterial hyperemia
 5. The neuromyolytic arterial hyperemia
- 6. Point out types of arterial hyperemia, depending on mechanisms of development:**
 1. The myoparalytic arterial hyperemia
 2. The work arterial hyperemia
 3. The post ischemic arterial hyperemia
 4. The neuromyolytic arterial hyperemia
 5. The neurotonic arterial hyperemia
- 7. Choose the factors which lead to arterial hyperemia:**
 1. Axon-reflex
 2. Paralysis of vasoconstrictors
 3. Decrease in a tone of muscle elements of arterioles
 4. Increase in a tone of vasoconstrictors
 5. Decrease in a tone of vasoconstrictors
- 8. Point out the consequences of thrombosis in arteries:**
 1. Post ischemic stasis
 2. Congestive stasis
 3. Arterial hyperemia
 4. Venous hyperemia
 5. Ischemia
- 9. Point out the consequences of thrombosis in veins:**
 1. Congestive stasis
 2. Post ischemic stasis
 3. Arterial hyperemia
 4. Venous hyperemia
 5. Ischemia
- 10. Point out the typical kinds of peripheral circulation:**
 1. Thrombosis
 2. Embolism
 3. Arterial hyperemia
 4. Venous hyperemia
 5. Ischemia
- 11. Choose the possible causes of gas embolism:**
 1. Wound of large veins in the neck
 2. Fast decrease of the barometric pressure from normal to low pressure
 3. Fast decrease of the barometric pressure from high to normal pressure
 4. Fast increase in the barometric pressure
- 12. Point out the factors which cause the stasis:**
 1. Increase of fluidity of blood in capillaries

2. Decrease of arterial pressure to venous pressure level
3. Increase of venous pressure to arterial pressure level
4. Increased blood flow velocity in microcirculatory vessels
5. Increased blood flow viscosity

13. Point out the biological active substances which cause ischemia:

- | | |
|----------------|-------------------|
| 1. Vasopressin | 2. Angiotensin-11 |
| 3. Bradykinin | 4. Nitric oxide |
| 5. Adrenaline | |

14. Point out the biological active substances which cause arterial hyperemia:

- | | |
|-------------------|-----------------|
| 1. Histamine | 2. Nitric oxide |
| 3. Thromboxane A2 | 4. Endothelin-1 |
| 5. Bradykinin | |

15. Choose the substances which increase the blood viscosity:

- | | |
|----------------|-------------|
| 1. Cholesterol | 2. Globulin |
| 3. Albumin | 4. Thrombin |
| 5. Fibrinogen | |

16. Point out the factors which decrease the blood flow viscosity:

1. Increased blood flow velocity
2. Increased hematocrit
3. Increased erythrocyte deformability
4. Irreversible erythrocyte aggregation

17. Point out the factors which can lead to arterial hyperemia:

1. Increased pressure in the major venous
2. The mechanical irritation of tissue or organ
3. Arterial occlusion by embolus
4. Resection of tumor which leads to compression of artery
5. Paralysis of vasoconstrictors

18. Point out the factors which lead to venous hyperemia:

1. Atherosclerotic changes of vessels
2. Venous occlusion by embolus
3. Compression of a vein by the increased uterus
4. Angiospasm
5. Increased pressure in the major venous

19. Choose the factors which can lead to ischemia:

1. Compression of artery by tumor
2. Paralysis of vasoconstrictors
3. Atherosclerotic changes of vessels
4. The mechanical irritation of tissue or organ
5. Thromboembolism of artery

20. Point out the consequences of continuous arterial hyperemia:

- | | |
|-------------------------|------------------------|
| 1. Congestive stasis | 2. Infarction of organ |
| 3. Hypertrophy of organ | 4. Sclerosis of organ |
| 5. Hemorrhage | |

21. Point out the consequences of continuous venous hyperemia:

1. Atrophy of parenchymatous cells
2. Growth of connecting tissue
3. Acceleration of organ development
4. Sclerosis of organ
5. Infarction of organ

22. Point out the consequences of continuous ischemia:

1. Hypertrophy of organ
2. Hemorrhage
3. Congestive stasis
4. Edema
5. Hypoxemic necrobiosis

23. Choose the nearest consequences of arterial hyperemia?

1. Edema
2. Increase of organ functionality
3. Hypertrophy or hyperplasia of tissues and organs
4. Congestive stasis
5. Hemorrhage

24. Choose the nearest consequences of venous hyperemia:

1. Sclerosis of organ
2. Necrosis of tissue
3. Hypoxia of organ or tissue
4. Edema
5. Hypertrophy of organ

25. Choose the consequences of short duration ischemia:

1. Congestive stasis
2. Necrosis
3. Hypoxia of organ or tissue
4. Edema
5. Decrease of organ function

26. Point out the signs which characterize arterial hyperemia:

1. Increased velocity of blood flow
2. Increased gradient of pressure over a length of capillaries
3. Increased peripheral resistance
4. Increased outflow of blood
5. Increased pressure within capillary

27. Point out the signs which characterize venous hyperemia:

1. Decreased gradient of pressure over a length of capillaries
2. Decreased filtration of liquid in the interstitial space
3. Decreased outflow of blood
4. Decreased pressure within capillary
5. Decreased velocity of blood flow

28. Point out the signs which characterize ischemia?

1. Decreased lymph drainage
2. Decreased pressure within capillary
3. Decreased gradient of pressure over a length of capillaries
4. Decreased velocity of blood flow
5. Decreased filtration of liquid from vessel to tissue

29. Choose the exterior signs of arterial hyperemia:

1. Dark red color of organ

2. Increased temperature of superficially located tissues
3. Edema
4. Increased turgor of tissue

30. Choose the exterior signs of venous hyperemia:

1. Decreased turgor of tissue
2. Ruby-colored organ
3. Edema
4. Increased temperature of superficially located tissues

31. Point out the microscopic signs of arterial hyperemia:

1. Increase in quantity of functional capillaries
2. The considerable widening of capillaries and venules
3. Decreased blood flow velocity
4. Jerky current of blood flow
5. Widening of arterioles and relaxation of precapillary sphincters

32. Point out the microscopic signs of venous hyperemia:

1. Penduliform current of blood flow
2. The considerable widening of capillaries and venules
3. Increase in quantity of functional capillaries
4. Decreased blood flow velocity
5. Widening of arterioles and relaxation of precapillary sphincters

33. Point put the microscopic signs of ischemia:

1. Decreased local hematocrit
2. Increased blood flow velocity
3. Decrease in quantity of functional capillaries
4. The considerable narrowing of microcirculatory vessels
5. Jerky current of blood flow

34. The color of an organ during arterial hyperemia is determined by:

1. The considerable widening of capillaries and venules
2. Increase in content of restored hemoglobin in venous blood
3. Increased local hematocrit
4. Increased content of oxyhemoglobin in blood

35. The color of an organ during venous hyperemia is determined by:

1. Increased content of oxyhemoglobin in blood
2. The considerable widening of capillaries and venules
3. Increased local hematocrit
4. Increase in content of restored hemoglobin in venous blood

36. The color of an organ during ischemia is determined by:

1. Increase in content of restored hemoglobin in venous blood
2. Decrease in quantity of functional capillaries
3. Increased content of oxyhemoglobin in a blood
4. Decreased local hematocrit

37. The change of surface disposed tissue temperature during arterial hyperemia is determined by:

1. Increased outflow of blood
2. Increased inflow of blood

3. Increased lymphatic drainage
4. Intensification of oxidizing processes

38. The change of surface disposed tissue temperature during venous hyperemia is determined by:

1. Decreased blood flow velocity
2. Decreased inflow of arterial blood
3. Increased inflow of arterial blood
4. The considerable widening of capillaries and venules

39. Point out the exterior signs of ischemia:

1. Paleness of organ
2. Edema
3. Decreased temperature of surface-located tissues
4. Small decreased volume of organ or tissue