

FLUID & HEMODYNAMIC DERANGEMENTS

1. Transudation may occur due to the following EXCEPT:
 - A. Increased intravascular hydrostatic pressure.
 - B. Decreased intravascular oncotic pressure.
 - C. Lymphatic Obstruction
 - D. Inflammation
 - E. Renal salt & water retention.

2. Which of the following statements is TRUE?
 - A. Hyperemia may occur with acute impaired venous return.
 - B. Cyanosis occurs in hyperaemia as the amount of deoxygenated hemoglobin increases in the blood.
 - C. Severe CCF leads to centrilobular necrosis & haemorrhage of liver due to hypoxia from reduced hepatic flow.
 - D. Acute congestion of lungs due to left heart failure lead to formation of hemosiderin laden scars, resulting in brown induration of the lungs.
 - E. All of the above

3. Which of the following statements is TRUE?
 - A. Jaundice may occur after large haemorrhage due to RC breakdown.
 - B. Sudden loss of more than 20% blood volume may induce hypovolemic shock.
 - C. Thrombosis occurs in non-interrupted blood vessels.
 - D. None of the above
 - E. All of the above.

4. Endothelial cells can be activated (ie. develop procoagulant properties) by:
 - A. Cytokines
 - B. Infection
 - C. Hemodynamic factors
 - D. Plasma constituents.
 - E. All of the above.

5. Normal endothelium synthesize the following substance to promote antithrombotic properties:
 - A. Thrombomodulin
 - B. Membrane bound heparin like molecule
 - C. Tissue plasminogen activator (tPA)
 - D. Prostacycline
 - E. All of the above

6. Which of the following is NOT a stimuli for platelet aggregation in hemostasis?
- A. PDGF (NO)
 - B. ADP
 - C. Thrombin
 - D. Thromboxane A₂
 - E. All of the above.
7. The role of thrombin includes:
- A. Stimulates platelet aggregation.
 - B. Catalyze conversion of fibrinogen to fibrin
 - C. Mitogenic for fibroblasts
 - D. Stimulates neutrophil & macrophage adhesion
 - E. All of the above.
8. Which of the following statements regarding the coagulation system is FALSE?
- A. Intrinsic PW of coagulation cascade occur on the surface of activated platelets.
 - B. Calcium is indispensable in the coagulation cascade.
 - C. Both intrinsic & extrinsic pathways of coagulation converge onto the activation of Factor X.
 - D. Extrinsic pathway is activated when the platelets are activated.
 - E. None of the above.
9. Natural anticoagulants exist to prevent the whole vasculature from clotting during hemostasis. They include:
- A. Antithrombin III
 - B. Tissue plasminogen activator (t PA)
 - C. Protein C
 - D. Urokinase plasminogen activator (uPA)
 - E. All of the above
10. Which of the following is the least important risk factor for development of thrombus?
- A. Acute myocardial infarction.
 - B. Smoking
 - C. Antithrombin III deficiency
 - D. Disseminated malignancy.
 - E. Prolonged rest in bed.
11. Which of the following regarding arterial thrombi is TRUE?
- A. It typically creates a long cast of vessel lumen with a propogational long tail.
 - B. The tail of thrombi often breaks off & embolizes to distal sites.
 - C. Most common sites are cerebral, coronary & femoral arteries.
 - D. Mural thrombi is most commonly found in the femoral artery
 - E. All of the above.

12. Which of the following statement regarding disseminated intravascular coagulation (DIC) is FALSE?
- A. Multiple thrombi develop in the microcirculation
 - B. Rapid consumption of platelets, prothrombin & fibrinogen occurs.
 - C. Bleeding diathesis is solely due to thrombocytopenia.
 - D. Fibrinogen degradation products (FDPs) increases due to rapid fibrinolysis
 - E. None of the above.
13. Causes of disseminated intravascular coagulation (DIC) include:
- A. Retained products of conception.
 - B. Meningococcaemia
 - C. Pancreatic carcinoma
 - D. Massive burns & trauma
 - E. All of the above
14. Which of the following statements regarding thromboembolism is TRUE?
- A. Superficial venous thrombosis rarely embolizes.
 - B. Superficial venous thrombosis precipitates skin infection & venous ulcers.
 - C. 50% of deep venous thrombosis are asymptomatic & only diagnosed after embolism occurs.
 - D. Arterial thrombi in the aorta & heart may embolize to brain, spleen, kidneys & legs.
 - E. All of the above.
15. What % of pulmonary vasculature needs to be obstructed before patient develops acute right heart failure?
- A. 50%
 - B. 60%
 - C. 70%
 - D. 80%
 - E. >90%
16. Which of following statements are FALSE?
- A. Embolic obstruction of small or medium sized arteries results in pulmonary infarct.
 - B. Multiple PEs can lead to development of pulmonary hypertension & chronic right heart failure.
 - C. 60-80% of PEs are clinically silent
 - D. More than 95% of PEs are from large DVTs in the popliteal, femoral or iliac veins.
 - E. Natural course of PE includes resolution & organization of the emboli.

17. Common risk factors for arterial thrombo-emboli include the following EXCEPT:
- A. AMI
 - B. Paradoxical embolism from venous thrombi
 - C. Rheumatic heart disease
 - D. Cardiomyopathy
 - E. None of the above.
18. Most common site of lodgement of arterial thromboemboli is:
- A. Lower limb
 - B. Upper limb
 - C. Brain
 - D. Kidney
 - E. Spleen
19. Which of the following statements are TRUE?
- A. Amniotic fluid embolism occur most commonly during labour & immediate post partum period due to tear in the placental membrane & rupture of uterine or cervical veins.
 - B. Mortality rate of amniotic fluid embolism is about 85%.
 - C. Patients with amniotic fluid embolism develop acute pulmonary oedema, adult respiratory distress syndrome & disseminated intravascular coagulation.
 - D. Air embolism can also occur during delivery.
 - E. All of the above.
20. Which of the following statements is TRUE?
- A. At least 100ml air need to enter the circulation before clinically significant problems of air embolism is encountered.
 - B. Acute decompression sickness manifests as acute obstruction of blood vessels around the joints, skeletal muscle, lungs & cerebral circulation.
 - C. Chronic decompression sickness is associated with aseptic necrosis of femoral, tibial & humeral heads.
 - D. 99% cases of fat embolism is clinically silent.
 - E. All of the above.
21. Symptoms of fat embolism from fractured shaft of femur include the following EXCEPT:
- A. Anaemia
 - B. Leukopaenia
 - C. Thrombocytopenia
 - D. Pulmonary insufficiency
 - E. Impaired conscious state

22. The most common cause of infarction of an organ or tissue is:

- A. Venous occlusion due to twisting of the organ
- B. Trapped viscus under peritoneal adhesions
- C. Thromboembolism
- D. Compression of organ in the hernial sac.
- E. Ballooning of atheroma secondary to haemorrhage into the plaque.

23. In non-progressive phase of shock, the following mechanism or reflexes are activated:

- A. Baroreceptor reflex
- B. Renin-angiotensin-aldosterone system
- C. Antidiuretic hormone
- D. Sympathetic-catecholamine release
- E. All of the above

24. Which of the following are NOT reversible changes of shock?

- A. Acute tubular necrosis
- B. Subendocardial necrosis
- C. Adult Respiratory Distress Syndrome (ARDS)
- D. Haemorrhagic enteropathy
- E. Central lobular haemorrhagic necrosis in the liver.

ANSWERS:

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|-------|-------|-------|
| 1. D | 11. C | 21. B |
| 2. C | 12. C | 22. C |
| 3. E | 13. E | 23. E |
| 4. E | 14. E | 24. B |
| 5. E | 15. D | |
| 6. A | 16. A | |
| 7. E | 17. B | |
| 8. D | 18. A | |
| 9. E | 19. E | |
| 10. B | 20. E | |