

Student name.....

Part I: Multiple Choice Questions: Choose the best correct answer (20 Marks)

1. Which of the following statements is incorrect about platelet response to vascular injury?

- a. Activation of platelets collagen causes morphologic changes in platelets and releasing the chemical mediators such as ADP and thromboxane A₂.
- b. Binding of thromboxane A₂ to its receptors on the resting platelets increases the calcium levels.
- c. The increase in the intracellular calcium leads to activation of thromboxane A₂ synthesis.
- d. Prostacyclin decreases the synthesis of cAMP which leads to a decrease in intracellular calcium.
- e. None of the above is correct answer.

2. Which of the following antiplatelet drugs is related to ADP receptor inhibitors?

- a. Eptifibatide.
- b. Aspirin.
- c. Clopidogrel.
- d. Dipyridamole.
- e. None of the above.

3. Which of the following statements is correct about heparins?

- a. Unfractionated heparin binds to thrombin III to accelerate the inactivation of coagulation factors.
- b. Unfractionated heparin and the low molecular weight heparins contain both a pentasaccharide sequence and the 18-saccharide sequence needed for binding to antithrombin III.
- c. Dalteparin binds with thrombin III and inactivate Factor Xa mainly.
- d. Enoxaparin can be used by intravenous and intramuscular administration.
- e. None of above is correct answer.

4. Which of the following anticoagulant drugs can be used orally?

- a. Lepirudin.
- b. Ardeparin.
- c. Dabigatran.
- d. Aspirin.
- e. Bivalirudin.

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5. Which of the following statements is incorrect about fibrinolytic drugs?
- Reteplase rapidly activates plasminogen that is bound to fibrin in a thrombus or a hemostatic plug.
 - Alteplase has a very short half-life (5-30 minutes).
 - Streptokinase directly converts uncomplexed plasminogen to plasmin and catalyzes the degradation of fibrinogen.
 - Urokinase directly cleaves the arginine-valine bond of plasminogen to yield active plasmin.
 - Fibrinolytic drugs therapy should be initiated early after clot formation.
6. Which of the following statements is incorrect about organic nitrates?
- They increase the formation of nitric oxide which increases cGMP formation.
 - Elevated cGMP results in vascular smooth muscle relaxation by dephosphorylation of the light myosin chain.
 - Their tolerance can be overcome by providing a daily nitrate-free interval.
 - Isosorbide mononitrate should be taken sublingually.
 - The most common adverse effect of organic nitrates is headache.
7. Which of the following statements is incorrect about asthma?
- Asthma is a disease of airway inflammation characterized by reversible airflow obstruction.
 - Antigens elicit the production of different antibodies which attach themselves to the surface of mast cells.
 - Short-term relievers are used to relieve symptoms of asthma and reverse airway constriction.
 - Long-term controllers are used to prevent bronchospasm by reducing bronchial responsiveness.
 - b and c are correct answers.
8. Which one of the following β -adrenoceptor agonists is not indicated for the relief of acute asthma symptoms?
- Albuterol.
 - Terbutaline.
 - Salmeterol.
 - Formoterol.
9. Which of the following statements is correct about theophylline?
- It has effects on different organs, but its main effect on the central nervous system
 - It inhibits cAMP concentration which leads to broncodilatation
 - It is a competitive antagonist of adenosine receptors which are Gs coupled receptors
 - It inhibits the release of histamine and leukotrienes from mast cells
 - b and d are correct answers
10. Which of the following statements is incorrect about cromolyn sodium?
- It is a mast cell stabilizer by blocking the calcium channel required for mast cell degradation
 - It is effective in reversing bronchospasm and can be used to treat antigen-induced asthma
 - It is poorly absorbed from GIT, so it must be inhaled as aerosolized solution
 - Its side effects include throat irritation, cough, mouth dryness, chest tightness, and wheezing
 - None of the above is correct

11. Which of the following statements is **incorrect** mucokinetic agents?

- a. They remove the mucus from the airways and used mainly in treatment of non-productive cough
- b. Guaifenesin increases the volume of secretions in trachea and bronchi which stimulates ciliary movement to remove these secretions
- c. Acetylcysteine breaks disulfide bonds in mucus and liquefies it, making it easier to cough up
- d. Bromhexine increases the hydration of bronchial secretion and enhances mucus transport by activating the ciliated epithelium
- e. b and d are correct answers

12. Which of the following statements is **incorrect** about aspirin?

- a. It reduces mortality after a myocardial infraction..
- b. It inhibits platelets aggregation.
- c. Is effective in primary prevention of myocardial infraction.
- d. It is used in the prophylactic treatment of transient cerebral ischemia.
- e. It give additive benefit when combined with warfarin after pulmonary embolism.

13. When used as antiarrhythmic drug, lidocaine typically

- a. Increases action potential duration.
- b. Increases contractility.
- c. Increases PR interval.
- d. Reduces abnormal automaticity.
- e. Reduces resting potential.

14. A drug that hyperpolarizes and prevents conduction of impulses in the AV node is

- a. Adenosine.
- b. Digoxin.
- c. Lidocaine.
- d. Quinidine.
- e. Verapamil.

15. A drug which is a sodium-channel blocker with little effect on action potential duration and with high incidence of arrhythmia induction

- a. Quinidine.
- b. Procainamide.
- c. Lidocaine.
- d. Flecainide.
- e. Amiodarone.

Item 16-18: A 65-year old man is brought to the emergency room 30 minutes after the onset of right-sided weakness and aphasia (difficulty speaking). Imaging studies ruled out cerebral hemorrhage as the cause of his acute symptoms of stroke.

16. Prompt administration of which of the following drugs is most likely to improve this patient's clinical outcome?

- A. Abciximab.
- b. Alteplase.
- c. Streptokinase.
- d. Vitamik k.

17. Over the next 2 days, the patient's symptoms resolved completely. To prevent a recurrence of this disease, the patient is most likely to be treated indefinitely with
- Aminocaproic acid.
 - Aspirin.
 - Enoxaparin.
 - Urokinase.
 - Warfarin.

18. If the patient is unable to tolerate the drug identified in Question 20, he should be treated with clopidogrel. Relative to ticlopidine, clopidogrel
- Has a shorter duration of action.
 - Is less likely to cause neutropenia.
 - Is more likely to induce antiplatelet antibodies.
 - Is more likely to precipitate serious bleeding.
 - Will have a greater antiplatelet effect.

19. Regarding warfarin

- Patients with recurrent transient ischemic attack should be treated with warfarin.
- Warfarin is absorbed rapidly after oral administration and thus, its anticoagulant effects are observed rapidly after drug administration.
- Reversal of the anticoagulant effect of warfarin following administration of vitamin K occurs rapidly.
- The goal of warfarin therapy is an INR of 2 to 3 for most indications.
- None of the above statements is correct.

20. Which one of the following statements concerning H₁ antihistamines is incorrect?

- H₁ antihistamines do not influence the formation or release of histamine. Rather, they block the receptor-mediated response of a target tissue.
- Second-generation H₁ antihistamines are relatively free of adverse effects.
- Because of the established long-term safety of first-generation H₁ antihistamines, they are the first choice for initial therapy.
- The motor coordination involved in driving an automobile is affected by the use of first-generation H₁ antihistamines.
- H₁ antihistamines cannot be used in the treatment of acute anaphylaxis.
- Both first- and second-generation H₁ antihistamines readily penetrate the blood-brain barrier.

Question Two: Answer the following questions: (20 Marks)

1. Mention 3 first-generation H1 antihistamine drugs used in the treatment of motion sickness, and 3 second-generation antihistamine drugs free of sedating properties?

2. Give the mechanism of action, therapeutic uses, and adverse effects of darbepoetin?

3. The cause of megaloblastic anemia needs to be determined in order to be specific in terms of treatment". Explain?

4. "Salmeterol should not be used as monotherapy for chronic asthma". Explain?

5. "Ipratropium bromide is the most commonly used anticholinergic for treating bronchoconstriction in asthma". Explain?

6. Give the strategies used to prevent increased local thrombi which may occur with fibrinolytic agents therapy?

7. Differentiate between Unfractionated heparin and LMW heparins in terms their actions on factor Xa, factor II, platelet aggregation, and routes administration? (Tabulate your answer).

8. 'Dabigatran may be used as an alternative to enoxaparin for thromboprophylaxis in orthopaedic surgery". Explain?

9. Describe treatment options for hypertriglycerolemia?

10. "Additional strategies, such as diet, exercise and additional agents may be warranted when using statins as antihyperlipidemic drugs". Explain?

Question Three: Please complete the following table as indicated below: (20 marks)

Drug	Classification	Main side effect
Terbutaline		
Atorvastatin		
Alteplase		
	Selective Factor Xa inhibitor	
Tranexamic acid		
guanifesein		
		Purple toe syndrome
montelukast		
fluticasone		
	Second generation H1-blocker	

*Good Luck!!!!!!!
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