

SHORT QUESTION TYPE

Mr. Smrutiranjana Dash
Assistant Professor (Pharmacology)

B-Pharm 5th Semester Pharmacology-I

PREVIOUS YEAR QUESTIONS - 5th SEMESTER

1. Define haematinics with examples of oral iron therapy.

Ans. Haematinics are the compounds required for the formation of blood. They are used for the treatment of anaemias. Haematinics include iron and folic acid.

e.g. Ferrous sulfate

Ferrous gluconate

Carbonyl iron

2. What is the response of histamine when injected intradermally?

Ans. Intradermal administration of histamine produce triple response

i.e., wheal (oedematous patch) due to escape of fluid from the capillaries

flare (spreading redness)

flush (reddening of skin) due to dilation of capillaries and venules

3. Write the mechanism action of carbemazole.

Ans. It is an anti-thyroid drug.

- It inhibits iodination of tyrosine residue in thyroglobulin. (Due to inhibition of peroxidase)

- It also inhibits coupling of iodotyrosine residue to form T₃ & T₄.

4. Name any two hypolipidemic drugs with their use.

Ans. Atorvastatin (HMG CoA inhibitor)-lowering the LDL-CH in primary and secondary hyperlipidaemias.

Fenofibrate -reduce and treat high cholesterol and triglyceride level in blood

5. Which serotonin antagonists act as antiemetics?

Ans. Selective serotonin receptor (5-HT₃) antagonist like ondansetron block serotonin peripherally on GI vagal nerve and centrally in chemoreceptor trigger zone.

6. Write the role of calcitonin in osteoporosis.

Ans. Calcitonin(corticosteroid) treats post-menopausal osteoporosis by inhibiting osteoclast and lower the risk of osteoporosis.

7. Name any two anti-rheumatic drugs with their uses.

Ans.

- Immunosuppressants- Methotrixate

Use- Rheumatoid arthritis

Wagner granulomatosis

- Immunomodulator- Sulfasalazine

Use-Rheumatoid arthritis

Juvenile chronic arthritis

Ankylosing spondylitis

8. Write about mechanism of spironolactone.

Ans. Spironolactone is a K⁺ sparing diuretics.

It binds to mineralocorticoid receptor and prevents action of aldosterone. It promotes Na⁺ excretion but produces K⁺ retention.

9. Name any two plasma volume expanders with their uses.

Ans. Crystalloids – Normal saline, Dextrose, Ringer's solution

Colloids- Dextran, human albumin, gelatine, blood

Use- maintain or restore vascular volume (during hypovolemia shock)

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10. Define coagulants. Write any two coagulants.

Ans. These are the agents which promote coagulation. They are used in haemorrhagic states
Vitamin-k- Phytonadine (K1), Menaquinone (K2), Menadione(K3)
Desmopressin
Fibrinogen

11. Write one example of heparin antagonist and its use.

Ans. Protamine sulfate -It binds with strongly acidic groups of heparins and the formed complex neutralises the anticoagulant activity of heparin.

Use- to reverse the effects of heparin overdose and to prevent heparin induce bleeding

12. What are fibrinolytics. Write one example.

Ans. These are the drugs used to lyse thrombi/clot to recanalize occluded blood vessels (mainly in coronary artery). They work by activating the natural fibrinolytic system.

e.g. Streptokinase

Urokinase

Retepase

13. Name any four class-III anti arrhythmic drugs.

Ans. Dronedrone

Ibutilide

Amioderone

Sotalol

14. What is PSVT? Name any two drugs used for the treatment of PSVT.

Ans. It is sudden onset episodes of atrial tachycardia with 1:1 atrioventricular conduction.

Mostly due to circus movement type of re-entry occurring within or around the AV node.

Rapid heartbeat-150-200/min

Drugs used in PSVT- Verapamil

Diltiazem (I.V)

Esmolol

15. Write examples of AT₁ blockers and their uses.

Ans. Losartan

Use- hypertension

Diabetic kidney disease

Valsartan

Use-treat high BP and heart failure

16. Name any two anti-platelet drugs and their uses.

Ans. Clopidogrel

Use-alternative prophylactic therapy to aspirin in secondary prevention on stroke and myocardial infraction and unstable angina

-prevent blood clot

Aspirin

Use-cyclooxygenase inhibitor

-analgesic

17. Define bioassay. Write the difference between quantal and graded bioassay.

Ans. It is the process of determining the potency of the drug by using suitable biological system like animals, tissues, microbes.

- Quantal bioassay

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- Response is in the form of all or none
- Either no response or maximum response
- Always between 0% and 100%
- Graded bioassay
 - Response is proportional to dose
 - Response may lie between no response and maximum response
 - Generally, between 0 and infinite

18. Sildenafil is avoided in persons taking organic nitrates. True or False.

Ans. True, as it causes fatal hypotension.

19. Write the principle pharmacological effects of quinidine, disopyramide and procainamide.

Ans. Pharmacological effects; decrease slope of phase '0' depolarisation

- decrease conduction velocity in AV node
- prolong action potential and increase in ERP

20. Define status asthmatus. Write examples of any two anti-inflammatory agents that act as mast cell stabilizers and prevent histamine release.

Ans. It is a condition of progressively worsening bronchospasm and respiratory dysfunction which fails to respond to conventional therapy (inhaled β_2 agonists, oral or i.v. steroids and O_2) and require hospitalization.

Example of anti-inflammatory agents that act as mast cell stabilizers and prevent histamine release- Cromoglycate

Azelastine

Lodoxamide

21. Define Prinzmetal angina. Why calcium channel blockers are used as an additional therapeutic agent along with isosorbide dinitrate for Prinzmetal angina.

Ans. It is an unpredictable pattern of angina that occurs at rest or sleep and is due to coronary spasm.

-In this case decrease blood flow to the heart muscle from the spasm of coronary artery. Calcium channel blockers used as an additional therapeutic agent along with isosorbide dinitrate for Prinzmetal angina as it prevents coronary artery spasm and potent coronary vasodilating action and allow for increased coronary blood flow.

22. Give any two examples of diuretics acting site -IV (collecting duct). Write their therapeutic uses.

Ans. Spironolactone

Amiloride

Uses-diuretics

Counteract K^+ loss due to thiazide and loop diuretic

Hypertension

Odema

23. Define micro re-entry and write any two possible causes of re-entrant arrhythmias.

Ans. It is the common form of ventricular tachyarrhythmias.

-Micro-re-entry(ischemic) involves a small re-entry circuit (with one chamber)

-Re-entry circuit is entirely within the AV node.

Cause- temporary blockage of one direction by refractory tissue.

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-Abnormal conduction of impulses in the heart leads to repetitive activation

24. Define classical angina. Enumerate any two anti-angina drugs.

Ans. It is the most common form of angina and it is usually characterised by short squeezing or burning feeling in the chest.

It is of two types- 1. Atypical

2. Typical

Anti-angina drugs – Nitrates (glyceryl nitrates)

- Trimetazidine

25. Write two major side effects of quinidine.

Ans. Torsade de points

 Ringing of ear

 Vertigo

26. Why β -blockers not recommend in bronchial asthma?

Ans. β - blockers increase bronchial obstruction, increase in airways reactivity and inhibit the bronchodilator effects of β - agonist. So, it is not recommended in bronchial asthma.

27. Write any four therapeutic uses of spironolactone.

Ans. Diuretics

 Hypertension

 Odema

 CHF

 Primary hyperaldosteronism

28. What are two important causes of cardiac arrhythmias.

Ans. Atrial fibrillation

 Atrial flutter

29. Write three forms of angina.

Ans. 1. Stable angina-stable atheromatous plaque narrows the lumen.

 -oxygen demand exceeds supply during exertion or emotion

2. unstable angina-plaque becomes unstable and ruptures

 -bleeding and thrombus cause partial occlusion

 -clot/plaque micro-emboli block smaller arteries downstream

3. variant angina-thrombus causes intermittent occlusion

 -blood and oxygen supply reduces

30. Vit-K is required for the synthesis of which clotting factor?

Ans. Prothrombin

 Factor- VII

 Factor- IX

 Factor- X

31. Give two examples of parenteral and oral anticoagulant.

Ans. Parenteral anticoagulant-heparin, lepirudin, desirudin

 Oral anticoagulant-warfarin, rivaroxaban, edoxaban

32. Write the adverse effect of spironolactone.

Ans. Gastric upset

 Gynecomastia

 Menstrual irregularities

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Hyperkalemia

Nausea

33. Write any two agents that inhibit histamine release.

Ans. Sodium chromoglycate

Ketotifen

34. 5-HT₃ is what type of receptor. Give two examples of its antagonist.

Ans. 5-HT₃ receptors are excitatory ligand gated ion channels. Their activation induces cell depolarisation by opening of non-selective cations (Na⁺, Ca²⁺ and K⁺)

35. Give two examples of leukotriene antagonist and mention its clinical use.

Ans. **Montelukast**

Use- chronic asthma prophylaxis

Prevent exercise induced bronchoconstriction

Allergic rhinitis symptoms

Zafilukast

Use- asthma

bronchodilator

36. Name two membrane stabilizing agents.

Ans. Lidocaine, Mexilitine

37. Write the mechanism of action and uses of acetazolamide.

Ans. Acetazolamide inhibits carbonic anhydrase which retards dehydration of H₂CO₃ in the tubular fluid. So that less CO₂ diffuses back into the cells.

Uses- glaucoma

Mountain sickness

Epilepsy

Alkaline urine

Cerebral and pulmonary Odema

38. Mention two drugs used in acute angina.

Ans. Nitro glycerine

B- blockers- propranolol, atenolol

39. Write the advantages and disadvantages of bioassay.

Ans. Advantages- simple and faster method

-Amount of test drug available is small

- Does not depend on DRC

Disadvantages- less accurate, time consuming

- cannot get exact match of response

40. Explain the pharmacological importance of H₃-R.

Ans. -Inhibition of histamine release (pre-synaptic autoreceptor)

-Impulse flow along the histaminergic neurons (somadadritic autoreceptor)

41. Write the factors facilitating and impeding iron absorption.

Ans. Ascorbic acid

Meat, poultry, fish

42. Define COPD and classify drugs used for COPD.

Ans. It is a chronic inflammatory lungs disease results obstruction of airways, dyspnea, decrease blood oxygen levels and decrease CO₂ level.

- Bronchodilators

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- ◆ β_2 sympathomimetics- Salbutamol, Salmeterol, Terbutaline
- ◆ Methyl xanthenes-Theophylline
- ◆ Anti-cholinergic-Ipratropium bromide
- Mast cell stabilizers-Sodium chromoglycate
- Leukotriene antagonist-Montelukast
- Corticosteroids
 - ◆ Systemic-Hydrocortisone
 - ◆ Inhalational-Beclomethasone

43. Discuss the moa of H₂ blockers.

Ans. Histamine release ECL cell by gastrin on vagal stimulation is blocked from binding to the parietal; cell

44. Define teratogenicity.

Ans. Teratogenicity can be defined as capacity of a exogenous agent to cause foetal abnormalities when administered to mother at any stage of pregnancy.

e.g.-Tetracycline

ACE inhibitor

45. Mention examples for a carbonic anhydrase inhibitor and potassium sparing diuretics.

Ans. Carbonic anhydrase inhibitors- Acetazolamide

Potassium sparing diuretics- Spironolactone

46. Mention any two examples H₁-receptor antagonists.

Ans. Mepyramine

Promethazine

47. Describe the therapeutic use for prostaglandin analogues.

Ans. Treatment of open angle glaucoma

48. What is Torsade de points.

Ans. It is a life-threatening form ventricular tachycardia with rapid asynchronous complex and conducting baseline on ECG.

-Prolong ventricular repolarisation, increase QT interval.

-Heart beat-350 to 550 per min

49. Quinidine should not administer with digoxin. Justify.

Ans. Quinidine along with digoxin administration increase digoxin level. So, Quinidine should not administer with digoxin.

50. Give two examples of nitro glycerines are administered by sublingually. Justify.

Ans. Nitro glycerines are administered by sublingually as it has short duration of action.

51. Write two examples of ACE inhibitors.

Ans. Ramipril

Enalapril

52. NSAIDs are contraindicated in asthmatic patients. Comment.

Ans. NSAIDs can induce bronchospasm as inhibition of COX-1 activates lipoxygenase pathway, eventually increases the release of leukotrienes.

53. Any two 5-HT receptor antagonist with their uses.

Ans. Methysergide- It is used in the prophylaxis of migraine and cluster headache.

Cyproheptadine- used in the treatment of pruritis

-used as anticonvulsant.

- relieve allergic symptoms