



..... الاسم
Answer the following questions

Question No. 1: Multiple choice questions, circle the correct answer

Which one of the following antihypertensive agents controls the blood pressure by blocking the peripheral α_1 -adrenoceptor?

- a) Losartan
- b) Tamzolusin
- c) Minoxidil
- d) Methyldopa
- e) Clonidine

Pharmacology I
dr mahmoud taleb
final 2017

Choose the incorrect statement from the following

- a) Sympathetic system increases rate of SA node
- b) Sympathetic system causes constriction of coronary arteries
- c) Sympathetic system causes increased motility of GIT smooth muscles
- d) Sympathetic system causes constriction of sphincter in GIT

Action of norepinephrine and epinephrine are terminated by

- a) Reuptake into nerve terminal
- b) Dilution by diffusion and uptake at extraneuronal site
- c) Metabolic transformation
- d) All of the above

Yohimbine is an antagonist of _____ receptors.

- a) α_1
- b) α_2
- c) both (a) and (b)
- d) None of the above

The cardiac muscarinic receptors

- a) Are of the M1 subtype
- b) Are of the M2 subtype
- c) Are selectively blocked by pirenzepine
- d) Non of the above

6. Adrenaline raises blood glucose level by the following actions except
- Inducing hepatic glycogenolysis
 - Inhibiting insulin secretion from pancreatic Beta- cells
 - Augmenting glucagons secretion from pancreatic alpha cells
 - Inhibiting peripheral glucose utilization
7. Characteristics of pilocarpine include all of the following EXCEPT:
- It is a tertiary amine alkaloid
 - It causes miosis and a decrease in intraocular pressure
 - Causes a decrease in secretory and motor activity of gut
 - It is useful in the treatment of glaucoma
8. Following is a short-acting anti-cholinesterase
- Neostigmine
 - Pyridostigmine
 - Edrophonium
 - Physostigmine
9. β_3 receptor is present in
- Adipose tissue
 - Smooth muscle
 - Heart
 - All of the above
10. Which of the following sympathomimetic drugs is a non -catecholamine ?
- Adrenaline
 - Noradrenaline
 - Isoprenaline
 - Ephedrine
 - None of the above
11. Following agent reduces the transmitter release by blocking nerve terminal calcium channels
- Botulinum toxin
 - Pilocarpine
 - Aflatoxin
 - All of the above
12. The fall in blood pressure caused by d-tubocurarine is due to
- Reduced venous return.
 - Ganglionic blockade
 - Histamine release
 - All of the above

3. Muscarinic receptors are G-protein coupled receptors, causing
- Inactivation of phospholipase C
 - Activation of adenylyl cyclase
 - Activation of potassium or inhibition of calcium channels
 - All of the above
4. β_1 receptors are present in
- Liver
 - Kidney
 - Brain
 - None of the above
5. Which of the following adrenoceptor blockers is the drug of choice for treatment of essential tremors ?
- Propranolol
 - Phetolamine
 - Timolol
 - Atenolol
 - None of the above
6. Pseudo-cholinesterase is present in
- Membrane
 - Vesicles
 - Synaptic cleft
 - Plasma and tissue
7. A sympathomimetic amine that acts almost exclusively by releasing noradrenaline from the nerve endings is
- Ephedrine
 - Dopamine
 - Isoprenaline
 - Tyramine
8. β -blockers are better avoided in
- Bronchial asthma
 - Pheochromocytoma
 - Myocardial infarction
 - Migraine

- 19. The skeletal muscle relaxant causing significant release of histamine is**
- a) Pancuronium
 - b) Atracurium
 - c) Gallamine
 - d) D-tubocurarine
- 20. Guanethidine inhibits**
- a) Synthesis of transmitter
 - b) Metabolism of transmitter
 - c) Release of transmitter
 - d) Displacement of transmitter from axonal terminal
- 21. The antibiotic that may accentuate the neuromuscular blockade produced by d-tubocurarine is**
- a) Pencillin G
 - b) Erythromycin
 - c) Streptomycin
 - d) Chloramphenicol
- 22. Belladonna poisoning is best treated with**
- a) Carbachol
 - b) Physostigmine
 - c) Acetylcholine
 - d) Adrenaline
- 23. d-Amphetamine is not used in**
- a) Narcolepsy
 - b) Hyperkinetic child (specially attention deficit disorder)
 - c) Migraine
 - d) Appetite suppressant
- 24. Which of the following β -adrenoceptor blockers is used as anti-glaucoma agent**
- (a) Propranolol
 - (b) Nadolol
 - (c) Timolol
 - (d) Atenolol
 - (e) None of the above

30. Products such as methylcellulose, psyllium, are known as:

- a) Stimulant laxatives
- b) Bulk-forming agents
- c) Lubricants
- d) Diphenylmethane derivatives

31. A medical student is involved in a summer research project evaluating the potencies of the α -adrenergic agonists at different receptor sites. Which of the following α -adrenergic agonists would be expected to have the strongest potency at the α_1 -receptor?

- a) Acetylcholine
- b) Epinephrine
- c) Isoproterenol
- d) Dopamine

32. A 32-year-old man presents to his primary care physician because of a 2-week history of nasal stuffiness, cough, and sinus pain. He is prescribed with phenylephrine. He must be aware of which of the following potential adverse effects?

- a) Constipation
- b) Diarrhea
- c) Epistaxis
- d) Hypertension
- e) Tinnitus

33. 15-year-old boy attempts suicide and is brought to the emergency department by the local rescue squad. He was found in the garage with an opened spray bottle of insecticide nearby. He has lost consciousness. His heart rate is 45 beats/minute, and his blood pressure is 80/40 mm Hg. He is sweating and salivating profusely. What is the most appropriate treatment for this patient?

- a) Atropine
- b) Edrophonium
- c) Norepinephrine
- d) Diazepam

34. Activation of sympathetic system leads to _____ except

- a) Contraction of bronchial smooth muscles
- b) Gluconeogenesis
- c) Glycogenolysis
- d) Contraction of radial smooth muscle of iris

5. This antibiotic is not appropriate for use as an oral agent in the treatment of recurrent peptic ulcer associated with *Helicobacter pylori*

- a) Amoxicillin
- b) Clarithromycin
- c) Metronidazole
- d) Gentamycin

6. Combination therapy with α -blockers and β -blockers is indicated to treat which kind of hypertension?

- a) Essential hypertension
- b) Hypertension due to Conn's syndrome
- c) Hypertension with renal insufficiency
- d) Hypertension due to pheochromocytoma
- e) Hypertension and asthma

7. Which of the following is the most deleterious effect of epinephrine infusion on cardiac function?

- a) increased heart rate
- b) increased stroke volume
- c) increased cardiac output
- d) arrhythmias
- e) increased coronary blood flow

8. A patient assessed in the Dementia clinic is found to meet the diagnostic criteria for moderately severe Alzheimer's disease, with a MMSE of 12/30. Which drug would be most appropriate to try to slow disease progression?

- a) Atropine
- b) Levodopa
- c) Donepezil
- d) Promethazine
- e) Diphenhydramine

9. The most effective and recommended option for GERD maintenance therapy is:

- a) Omeprazole
- b) Pirenzepine
- c) Antireflux surgery
- d) Endoscopic therapy
- e) Antacids

5-year-old man with Parkinson's disease presents to the clinic for follow-up. Recently, he has experienced an increase in his resting tremor and rigidity. He was wondering if there is a medication that could help these symptoms. What is the most appropriate treatment?

- a) Ipratropium
- b) Bromocriptine
- c) Tribexaphindyl
- d) Scopolamine
- e) Tropicamide

Nondepolarisation neuromuscular blocking agents:

- Block acetylcholine reuptake
- Prevent access of the transmitter to its receptor and depolarization
- Block transmission by an excess of a depolarizing agonist
- All of the above

Beta-receptor antagonists have all of the following cardiovascular effects EXCEPT:

- The negative inotropic and chronotropic effects
- Acute effects of these drugs include a fall in peripheral resistance
- Vasoconstriction
- Reduction of the release of renin

Characteristics of carvedilol include all of the following EXCEPT:

- It is a beta1-selective antagonist
- It has both alpha1-selective and beta-blocking effects
- It attenuates oxygen free radical-initiated lipid peroxidation
- It is used in severe cases of hypertension

Indicate the drug that cause metabolic alkalosis and acid rebound :

- Sodium bicarbonate
- Nimetidine
- Aluminium hydroxide
- Sucralfate

Domperidone is a potent

- acetyl choline antagonist
- Dopamine antagonist
- serotonin agonist
- dopamine agonist

41. Select the drug which inhibits peristalsis:

- a) Castor oil
- b) Bisacodyl
- c) Loperamide
- d) Sorbitol

42. Choose the drug irritating the gut and causing increased peristalsis:

- a) Phenolphthalein
- b) Methyl cellulose
- c) Sodium docusate
- d) Bran

43. vague abdominal pain, headaches, A 24-year-old male comes to the clinic complaining of sweating, and unintentional weight loss. Urinalysis reveals elevated levels of catecholamine metabolites. Which of the following is a metabolite specific to breakdown of epinephrine he

- a) Dihydroxyphenylalanine
- b) Dihydroxymandelic acid
- c) Homovanillic acid
- d) Metanephrine
- e) Vanillylmandelic acid

44. A novel medication to treat gastric motility disorders of acetylcholine. Which of the following is the terminal step in the synthesis and release of acetylcholine

- a) Degradation
- b) Release of neurotransmitter
- c) Recycling of choline
- d) Synthesis

45. Which of the following drugs is an enzyme inhibitor?

- a) Atenolol
- b) Rifampicin
- c) Acetylcholine
- d) Pindolol
- e) Cimetidine

46. Following enzyme is involved in the synthesis of acetylcholine

- a) Choline acetyl transferase
- b) Acetyl cholinesterase
- c) Both (a) and (b)
- d) None of the above

47. Noradrenalin

- a) Subcuta
- b) Intramu
- c) Slow int
- d) All of th

48. Ephedrine co

- a) ephedrin
- b) Ephedrin
- c) a + b are
- d) Non of th

49. Following dru

- a) 4-amino
- b) Vesamie
- c) Magnes
- d) None o

50. Which of th

- a) Norad
- b) Adren
- c) Isopro
- d) Dobu
- e) Salbu

51. Ephedrine

- a) Pote
- b) Inab
- c) Dur
- d) Proc

7. Noradrenaline is administered by

- a) Subcutaneous injection
- b) Intramuscular injection
- c) Slow intravenous infusion
- d) All of the above routes

8. Ephedrine considered anti fatigue drug due to

- a) ephedrine increase sensitivity of nicotinic receptor to acetylcholine.
- b) Ephedrine causes vasodilation of blood vessels of skeletal muscles.
- c) a + b are correct
- d) Non of the above

9. Following drug inhibits vesical storage of acetylcholine

- a) 4-aminopyridine
- b) Vesamicol
- c) Magnesium ion
- d) None of the above

10. Which of the following drugs is used in cardiogenic shock ?

- a) Noradrenaline
- b) Adrenaline
- c) Isoprenaline
- d) Dobutamine
- e) Salbutamol

11. Ephedrine is similar to adrenaline in the following feature

- a) Potency
- b) Inability to penetrate blood-brain barrier
- c) Duration of action
- d) Producing both α and β adrenergic effects

Question No. II 20M

Discuss of the followings

1- Explain with examples how drugs used in treatment of ulcer nearly meet to overcome steps of hydrochloric acid biosynthesis.

2. Compare between pathogenesis, causes diagnosis and treatment of myasthenia gravis and pheochromocytoma.

3- Compare between indications and disadvantages of laxatives.

4- Anticholinergic family contains different therapeutic purposes (explain with examples of drugs) comparing with big pos of this family (Atropine) that have many side effects .

Question No. III

30 M

Give mechanism of action , therapeutic uses and side effects for of the following drugs

1- Propranolol

Mechanism of action	
therapeutic uses	
possible main side effects	

2- Misoprostol

Mechanism of action	
therapeutic uses	
possible main side effects	

3- Diphenoxylate

Mechanism of action	
therapeutic uses	
possible main side effects	

4-Clonidine

Mechanism of action	
Therapeutic uses	
Possible main side effects	

5-Metocloperamide

Mechanism of action	
Therapeutic uses	
Possible main side effects	

6- Doxazocin

Mechanism of action	
Therapeutic uses	
Possible main side effects	

7- Xylometazoline-

Mechanism of action	
Therapeutic uses	
Possible main side effects	

Bismuth subsalicylate

Mechanism of action	
Therapeutic uses	
Possible main side effects	

-Phenoxybenzamine

Mechanism of action	
Therapeutic uses	
Possible main side effects	

Q- Omperazole

Mechanism of action	
Therapeutic uses	
Possible main side effects	

Question IV : Please write True or False and correct the false (20 pts.)

1. () Deficiency of pseudocholinesterase is an pharmacogenetic variation which causes adverse reaction such as arrhythmia following succinylcholine administration.
2. () Edrophonium is a long - acting irreversible cholinestrase inhibitors that is used orally to treat myasthenia gravis.
3. Ondasetron is an adrenergic agonist used as antiemetic drug.
- 4.() Lasctulose is important drug in treatment of diarrhea.
5. () Triple therapy of peptic ulcer may consist of omeprazole, gentamycin and metronidazole.
6. Sodium docusate is a drug used to treat constipation by increasing motility.
- 7- () α -methyl dopa is the preferable antihypertensive drug used in hypertensive crisis
8. Carvidilol is aniticholinergic drug and used in treatment of hypertension.
9. () Famotidine is similar to ranitidine in its pharmacologic action, but it is 20 to 50 times more potent than cimetidine .
10. Proglumide is gastrin and cholycytokinin agonist used in treatment of constipation.

Great success to all in shaa allah

Dr. Mahmoud H. Taleb