

17

ANS

H14023.

Q: No: 1a:

Enumerate indirectly acting
cholinergic Drug? Pg 60

b Treatment of organophosphate poisoning?
Notes: Atropine adequate use, Pridloxime
Benzhexamine - Ditepan

Q: No: 2a: Give therapeutic classification
of anticholinergic drugs? 69 Pg

Q: No: 2- Uses & A.E of Atropine? Round ANS

Q: No: 3a: Pilocarpine? - D.A. cholinergic agonist

MOA:- • Activate Muscarinic receptor

• \uparrow IP₃ and DAG

• May also activate EPSP via

• M receptors in ganglia

Clinical Uses:-

• Sjogren's syndrome

• \uparrow salivation

• Used in glaucoma

• Cause Miosis

• Cyclospasm

AE:-

• Vasoconstriction via ganglionic
effect

• All Parasympathetic affected:

• cyclospasm

• diarrhea

• urinary urgency

• vasodilation

• Reflex tachycardia • sweating

Q:4b: Ganglion Blocker? Hexmethonium

MOA:- Selective Block of N_A receptors

Use: Hypertension

A-E Block of all autonomic effect

ANS Repeat Test.

Q:104: A-E & uses of Atropine & Propranolol?

Round Q:No:12 Ans.

Q:No:5 What is Epinephrine reversal phenomena? Round

ANS & Respiratory:

1a) Enumerate adrenoceptors with their location? Pg 52k.

1b) How does Epinephrine differ from Norepinephrine in terms of:

Epinephrine

Norepinephrine

• Receptor Selectivity

• Receptor selectivity

• $\alpha_1, \beta_2, \alpha_2, \beta_1, \beta_3$

• $\alpha_1, \alpha_2, \beta_1, \beta_3$

respiratory sites

epinephrine

no*

bronchodilation

constriction

Cardiovascular Action

It is given in cardiac arrest

↑ Myocardial activity
 ↑ contraction rate

↑ release of renin → ↑ Angiotensin II
 ↑ vasoconstrictive → ↓ blood flow, ↑ systolic pressure

NO → Tachycardia
 It is given in shock

Peripheral resistance ↑
 Vasoconstriction → α effect → systolic pressure ↑
 → B.P ↑ → Baroreceptor activate → ↑ Vagal activity
 Bradycardia → counter effect of epinephrine → counter effect

Q: 2a Give clinical indications of Sympathomimetics?

Epinephrine: Treatment of anaphylactic shock

Methylphenidate: Attention deficit disorder

Phenylephrine: ↑ conjunctival allergy

Tetrahydrozolin

Phenylephrine: Effective in mydriatic

Brominidine: Glucoma

Albuterol: Acute asthmatic Bronchoconstrict

Dopamine: Acute Heart failure & some types of shock

Tubutaline: To suppress premature labour

Q: 2b Classify adrenergic antagonist on the basis of receptor selectivity? Pg 85 K.

- Anaphylaxis
- Hemostatic
- cardiac arrest
- Shock
- Heart failure
- Neurogenic hypotension
- Acute bronchospasm
- ↑ nociception
- ADHD
- Narcolepsy
- local anesthetic

Propranolol is a blocker work by causing the blood vessels and muscles along with urethra to relax. This helps to lower the B.P. and to improve urinary symptoms associated with enlargement of prostate.

Q: No: 3 ii) ^{selective blocker} Proazosin in Benign Prostatic Hypertrophy → Rounds

(i) Timolol in Glaucoma:

↓ sec of aqueous humor from ciliary epithelium.

Neostigmine → inhibit choline esterase, reduce ACh

Propranolol → \downarrow renin → \downarrow decreases cardiac output

iii) Dopamine in hypovolemic shock?

↑ B.P. → By stimulating β_1 receptors on heart to ↑ cardiac output and α_1 receptors on blood vessels to ↑ total peripheral resistance. It enhance perfusion.

Q: 49: Uses of Propranolol? Rounds.

b) Epinephrine reversal phenomena? Round.

c) Why B blockers are contraindicated in patients of insulin dependent Diabetes Mellitus? → Rounds.

Ans: B-blocker lead to hypoglycemia. Because B-blocker cause ↓ recovery from insulin induced hypoglycemia.

2. They prevent Glycogenolysis.
3. Mask the sign and symptoms of hypoglycemia which are Tremors and Tachycardia.

4) B-blocker never given with insulin.
5) B-blocker with Ca^{2+} channel blockers can block the heart.

Cimetidine \rightarrow H_2 receptor Antagonist

Drugs bind to H_2 receptor and competitively inhibit the action of histamine on H_2 receptor and thereby reduce gastric secretion

DPT to ANS Tm:

Q.No: 3a Describe of Acetylcholine?

Pharmacological effects

CVS \rightarrow Rouds

1) GIT Affect:

- \uparrow Intestinal motility
- \uparrow Salivation
- \uparrow Gastric secretions

2) Classify adrenergic agonists? Pg 76

Q.No: 4a: Clinical uses of α -blocker with example?

BPH: Prazosin

Pheochromocytoma: Phentolamine

Mastocytosis: Phenox benzamine

Antidote to overdose of α -agonist: Phentolamine

Antidote to overdose of α -agonist: Yohimbine

Erectile dysfunction

1b) How Propranolol exerts its antihypertensive effect? Pg 8 B α_1 α_2 round.

\downarrow arterial tone \rightarrow \downarrow peripheral resistance \rightarrow
R.C.O \rightarrow \downarrow stroke volume \rightarrow \downarrow vasodilation \rightarrow \downarrow B.P

B. Indicated ↓ mortality & morbidity
when used - depends on

→ Oxime position bind with
enzyme active site. Its binding
ability is ↑ than phosphorus.
Due to which increase the
effect of phosphorus. It is
effective till giving val. closer.

D → Diarrhea
U → urination

B → Blood count
L → lacrimation

Neostigmine:

Use = Myasthenia gravis, Reversal of Nm blockage

A.R =

↑ Parasympathetic effect.

Nausea

Vomiting

Diarrhea

Urinary urgency.

MOA: -

I

Inhibitor of cholinesterase
Amplifier of endogenously released
ACh.

Max Marks: 25

Time allowed: 25min

1. Which of the following drugs has ability to cross blood brain barrier and can effectively treat sleeping overdose?

- A. Edrophonium
- B. Neostigmine

- C. Phenylephrine
- D. Physostigmine

2. Choose a drug for treatment of vertigo followed by its inhibition of head and neck

- a) Pilocarpine
- b) Atropine

- c) Cyclopentamine
- d) Diplopramine

3. Which of the following may precipitate an attack of open angle glaucoma if instilled into eye?

- a) Physostigmine

- b) Atropine
- c) Pilocarpine
- d) Cyclopentamine

4. A woman with facial muscle spasm is treated with an agent that inhibits the release of acetylcholine. Which side effect is most likely to occur in this patient?

- a) Urinary incontinence

- b) Dry mouth
- c) Blurred vision
- d) Flushing

5. Which of the following drug relieves bronchospasm in patients with chronic obstructive pulmonary disease (COPD) by acting on muscarinic receptors?

- A. Epinephrine

- B. Ipratropium

- C. Ritodrine

- D. Salbutamol

6. Select the cholinesterase inhibitor that is used in diagnosis of myasthenia gravis?

- a) Edrophonium

- b) Ambenonium

- c) Inhibitor

- d) Pyridostigmine

7. Accepted therapeutic indications for use of antimuscarinic drugs include all of following except:

- a) Glaucoma

- b) Motion sickness

- c) Antidote for organophosphate poisoning

- d) Parkinson disease

8. Which of the following adrenergic receptors is most likely a presynaptic receptor that mediates auto release of neurotransmitter through negative feedback?

- a) α_1

- b) α_2

- c) β_1

- d) β_2

9. 12 years old boy, allergic to peanuts, is presented to emergency department with anaphylactic shock after consumption of peanuts. What would be the most appropriate drug to treat this patient?

- a) Diphenhydramine

- b) Epinephrine

- c) Dobutamine

10. 65 years old woman with long standing diabetes mellitus is admitted to ward from emergency department and you wish to examine her retina for possible changes. Which of following drugs is a good mydriatic that causes pupillary dilatation but not cycloplegia is desired?

- a) Diphenhydramine

- b) Pilocarpine

- c) Tropicamide

11. A patient with COPD is treated with dobutamine. Select the mechanism of action of dobutamine?

- a) β_1 adrenergic antagonist

- b) β_2 adrenergic antagonist

- c) β_1 adrenergic agonist

- d) β_2 adrenergic agonist

12. A 60-year-old man with a history of hypertension and complains that he is having difficulty in seeing at night. He has a blood pressure of 160/90 mmHg. Which of the following drugs would be useful in treating his condition?

- a) Atenolol

- b) Lisinopril

- c) Nifedipine

- d) Verapamil

- a) Doxazosin b) Labetalol c) Phentolamine d) Propranolol

13: Which drug is most likely to slow recovery from hypoglycemia in a diabetic patient who has taken an excessive dose of insulin?

- (a) Epinephrine (b) doxazosin (c) propranolol (d) phenylephrine

14: Propranolol is useful in all of the following conditions except:

- (a) Angina (b) Familial tremor
(c) Hypertension (d) Partial atrioventricular heart block

15: First dose syncope, reflex tachycardia and sexual dysfunction are adverse effects of which of the following drug?

- A. Atenolol C. Nadolol
B. Metoprolol D. Prazosin

16: Yohimbine is an antagonist of _____ receptors.

- a) $\alpha 1$ (b) $\alpha 2$ (c) both (A) and (B) (d) $\beta 2$

17: Which of the following agents would most likely be contraindicated in a patient of bronchial asthma?
-) Ipratropium b) Salbutamol c) Propranolol d) piniphrine

18: Propranolol does not block the following action of adrenaline:

- (a) Bronchodilation (b) Lipolysis (c) Muscle tremor (d) Mydriasis

19: Which of the following beta blocker is cardioselective and is safe in asthmatic patients?

- A. Metoprolol C. Propranolol
B. Nadolol D. Sotalol

20: Which of the following sympathomimetic drug is a non-catecholamine?
a) Dobutamine b) Noradrenaline c) Dopamine d) Ephedrine

21: Which one of the following effects is caused by the ingestion of mushrooms that contain pilocarpine?
a) Bradycardia b) Bronchodilation c) constipation d) Hypertension

22: The activation of muscarinic receptors in bronchial smooth muscles is associated with:

- a) Activation of adenylyl cyclase
b) Increase in cAMP formation by G proteins
c) Increase in IP₃ and DAG
d) Opening of Na⁺/K⁺ cation channel

23: Among the β -adrenergic blocker which possesses both $\beta 1$ selectivity as well as $\alpha 1$ antagonist activity:

- (a) Propranolol (b) Atenolol (c) Acebutolol (d) Metoprolol

24: A patient was given a non selective beta agonist. Which of the following adverse effects was not seen in this patient.

- a) Tachycardia
b) Worsening of bronchoconstriction
c) Hypertension
d) Prolonged action of sympathomimetic that is lipid soluble and is vasoactive

- e) Neostigmine
f) Vasoconstriction

ANS Pool

1: Choose a drug for treatment of xerostomia followed by irradiation of head and neck

- A. Pilocarpine
- B. Atropine
- C. scopolamine
- D. epinephrine

2: Which of the following may precipitate an attack of open angle glaucoma if instilled into eye?

- A. Physostigmine
- B. Atropine
- C. Pilocarpine.
- D. Ecothiopate

3: A woman with facial muscle spasm is treated with an agent that inhibits the release of acetylcholine. Which side effect is most likely to occur in this patient?

- A. Urinary incontinence
- B. Dry mouth
- C. Diarrhea
- D. Miosis

4: Which of the following drug relieves bronchospasm in patients with chronic obstructive pulmonary disease (COPD) by acting on muscarinic receptors?

- A. Epinephrine
- B. Ritodrine
- C. Ipratropium
- D. Salbutamol

5: Select the cholinesterase inhibitor that is used in diagnosis of myasthenia gravis.

- A. Edrophonium
- B. ambenomium
- C. Malathion
- D. Pyndostigmine

6: Select the cholinesterase inhibitor that is used in diagnosis of myasthenia gravis:

- A. Edrophonium
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- C. Malathion.
- D. Pyridostigmine

7: Accepted therapeutic indications for use of antimuscrinic drugs include all of following except:

- A. Glaucoma.
- B. Motion sickness
- C. Parkinson disease
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8. Which of the following adrenergic receptors is most likely a presynaptic receptor that mediates decrease release of neurotransmitter through negative feedback?

- A. α_1
- B. α_2
- C. β_1
- D. β_2

9. A 12years old boy, allergic to peanuts, is presented to emergency department with anaphylacti after consumption of peanuts. What would be the most appropriate drug to treat this patient?

- A. Ephedrine
- B. Epinephrine
- C. phenylephrins
- D. Dobutamine

10. A 65 ye old woman with long standing diabetes mellitus is admitted to ward from emergency department and you wish to examine her retina for possible changes. Which of following drugs is a good choice when papillary dilatation but not cycloplegia is desired?

- A. Norepinephrine
- B. phenylephrine
- C. pilocarpine
- D. tropicamide

new
D.D.K

11. A 60 yr old male with CCF is treated with dobutamine. Select the mechanism of action of dobutamine:

- A. alpha adrenergic agonist.
- B. alpha adrenergic antagonist
- C. beta adrenergic agonist.
- D. beta adrenergic antagonist

12. 60-year-old asthmatic man comes in for a checkup and complains that he is having some difficulty instarting to urinate. Physical examination indicates that the man has a blood pressure of 160/100 mm Hg pressure of 160/100 mm Hg and a slightly enlarged prostate. Which of the following medications would be useful in treating both of these conditions (BPH and hypertension)?

- A. Doxazosin
- B. Labetalol
- C. Phentolamine
- D. Propranolol

13: Which drug is most likely to slow recovery from hypoglycemia in a diabetic patient who has talon an excessive dose of insulin?

- A. Epinephrine
- B. doxazosin
- C. propranolol
- D. phenoxybenzamine

14: Propranolol is useful in all of the following conditions except:

- A. Angina
- B. Familial tremor
- C. Hypertension
- D. Partial atrioventricular heart block

15. Fint dose syncope, reflex tachycardia and sexual dysfunction are adverse effects of which of the following drugs?

- A. Nadoled
- B. Prazosin
- C. Atenolol
- D. Metoprolol

16: Yohimbine is an antagonist of _____ receptors?

- A. $\alpha 1$
- B. $\alpha 2$
- C. both (A) and (B)
- D. $\beta 2$

17. Which of the following agents would most likely be contraindicated in a patient of bronchial asthma?

- A. Ipratropium
- B. Salbutamol
- C. Propranolol
- D. Epinephrine

18: Propranolol does not block the following action of adrenaline:

- A. Bronchodilatation
- B. Lipolysis
- C. Muscle tremor
- D. Mydriasis

19: Which of the following beta blocker is cardiac selective and is safe in asthmatic patients?

- A. Metoprolol
- B. Propranolol
- C. Nadolo
- D. Sotalol

20: Which of the following sympathetic drug is on Catecholamine?

- a) Adrenaline.
- b) Noradrenaline.
- c) Dopamine
- d) Ephedrine

21. Which one of the following effects is caused by the ingestion of mushrooms that contain pilocarpine?

- A. Bradycardia
- B. Bronchodilation
- C. constipation
- D. Hypertension

22. The activation of muscarinic receptors in bronchiolar smooth muscles is associated with:

- A. Activation of adenylyl cyclase
- B. Decrease in cAMP formation by G proteins
- C. Increase in IP and DAG
- D. Opening of Na⁺ cation channel

23. Choose the B-adrenergic blocker which possesses both p1 selectivity as well as intrinsic?

- A. Propranolol
- B. Atenolol
- C. Acebutolol
- D. Metoprolol

24. An asthmatic patient was given a non selectory beta agonist. Which of the following adverse effect would you expect to see in this patient.

- A. bradycardia
- B. Tachycardia
- C. Hypotension
- D. Worsening of bronchoconstriction

1. Parathion has which of following characteristics?
 a. It is inactivated by conversion to parathion
 b. It is less toxic to human than malathion
 c. It is poorly absorbed through skin and lungs
 d. If treated early, its toxicity may be partly reversed by pralidoxime
2. Which of following is best drug to distinguish between myasthenic crises and cholinergic crisis?
 a. Atropine b. Edrophonium c. Physostigmine d. Pralidoxime
3. Which of following is correct regarding beta blockers?
 a. Treatment with beta blockers should not be stopped abruptly
 b. Propranolol is a cardio selective beta blocker c. Cardio selective beta blockers worsen asthma
 d. Beta blockers decrease peripheral resistance by causing vasodilatation
4. A male treated with doxazosin for BPH. He complains of dizzy spells after getting up from bed at night. Which drug should be alternative?
 a. Propranolol b. Phentolamine c. Tamsulosin d. Terazosin
5. Which of the following may precipitate an attack of glaucoma if instilled into the eye?
 a. Physostigmine b. Atropine c. Pilocarpine d. Echothiopate
6. A 60 years old man who was smoker is diagnosed with chronic pulmonary disease and suffers from occasional bronchospasm. Which of following would be effective in treating him?
 a. Ipratropium aerosol b. Scopolamine patches c. Mecamylamine d. Oxygen
7. Atropine is antidote for?
 a. Organophosphate poisoning b. Physostigmine poisoning c. Mushroom poisoning
 d. TCA poisoning **e. All of above**
8. Which of following adrenergic agonist is commonly present in nasal sprays available over the counter to treat nasal congestion?
 a. Clonidine b. Albuterol c. Oxymetazoline d. Formoterol
9. A pt with anaphylactic shock is brought to emergency. Which of following drugs is most appropriate to treat this patient?
 a. Norepinephrine b. Phenylenethers c. Vasopressin d. Epinephrine
10. Which of following is used to improve cardiac function in pt who presented with blood pressure of 70/60 mmHg, tachycardia and low cardiac output? He is diagnosed with acute heart failure?
 a. Epinephrine b. Fenoldopam c. Dobutamine d. Isoprenaline
11. Which of following drugs will be most useful in treating poisoning with atropine?
 a. Malathion b. Physostigmine c. Muscarinic antagonist d. Nicotinic antagonist
12. Scopolamine is also called as?
 a. Physostigmine b. Atropine c. Mecamylamine d. Hyoscine butyl bromide
13. At higher doses of Atropine, which receptors are blocked?
 a. M1 b. M2 c. M3 d. M4
14. Following are effects of Atropine on eye except?
 a. Mydriasis b. Positive light reflex c. Cyclopipegia d. Negative light reflex
15. Yohimbine is?
 a. Alpha 1 Agonist b. Alpha 2 Agonist c. Alpha 1 Antagonist d. Alpha 2 Antagonist

Ipratropium aerosol

Tamsulosin

Oxymetazoline

Dobutamine (By selective)