

QUESTION What is the rationale for the use of following drugs: Timolol in glaucoma Tamsulosin in BPH Ipratropium as anti asthmatic drug Epinephrine in anaphylactic shock Neostigmine in myasthenia gravis

Variation in the sensitivity of a population of individuals to increasing doses of a drug is best determined by which of the following? Efficacy Potency Quantal dose response curve Graded dose response curve

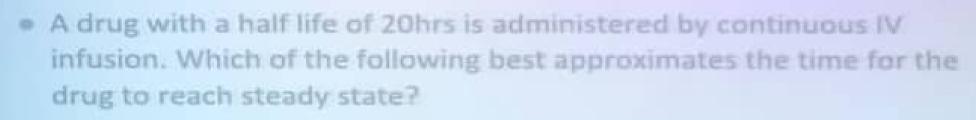
A 24 years old patient is to be treated for toothache with an analgesic.

Drug X and Y are 2 analgesics with the same mechanism of action. Drug X in a dose of 5 mg produces the same magnitude of response as 500 mg of drug Y. This most likely means:

- a. Drug X has less potency than drug Y
- b. Drug X has more efficacy than drug Y
- c. Drug Y has more efficacy than drug X
- d. EC 50 of drug Y is more than the EC50 of drug X

The phenomenon of decrease in intensity of response to a given dose of a drug after repeated administration so that greater amount of drug is required to produce the same previous effect is called:

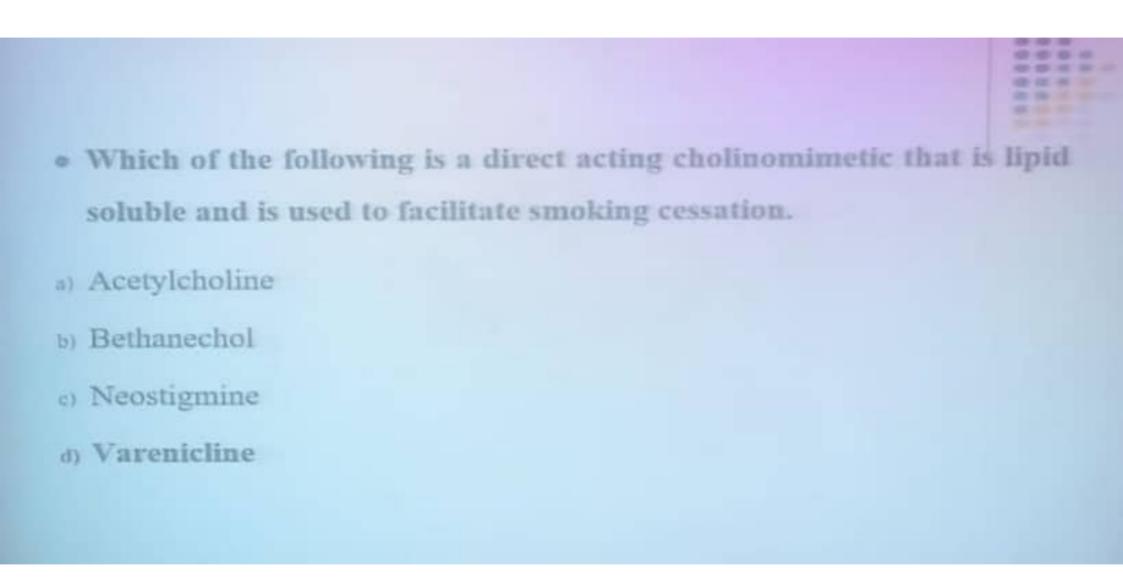
- a. Allergy
- b. Dependence
- c. Tolerance
- d. Idiosyncrasy



- a) 20hrs
- b) 33hrs
- c) 40hrs
- d) 80hrs

- 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
- e) Increase in IP3 and DAG
- d) Opening of Na/K cation channel

- The best drug for distinguishing between myasthenia crisis (insufficient therapy) and cholinergic crisis (excessive therapy) is:
- a. Atropine
- ь. Ecothiophate
- c. Edrophonium
- d. Physostigmine



Which of the following defines the concentration or dose between the minimum effective concentration or dose and minimum toxic concentration or dose?

- a. Efficacy
- b. Intrinsic activity
- Therapeutic index
- d. Therapeutic window

Which of the following ligands is correctly coupled with its receptor signaling mechanism?

- a. Adrenaline: Ion channel linked receptors
- b. Acetylcholine: Intracellular receptors
- c. Growth hormones: Tyrosine kinase receptors
- d. Thyroid hormones: G protein coupled receptors

A patient is administered insulin to a patient to oppose the hyperglycemic effects of Glucocorticoid therapy. This is an example of

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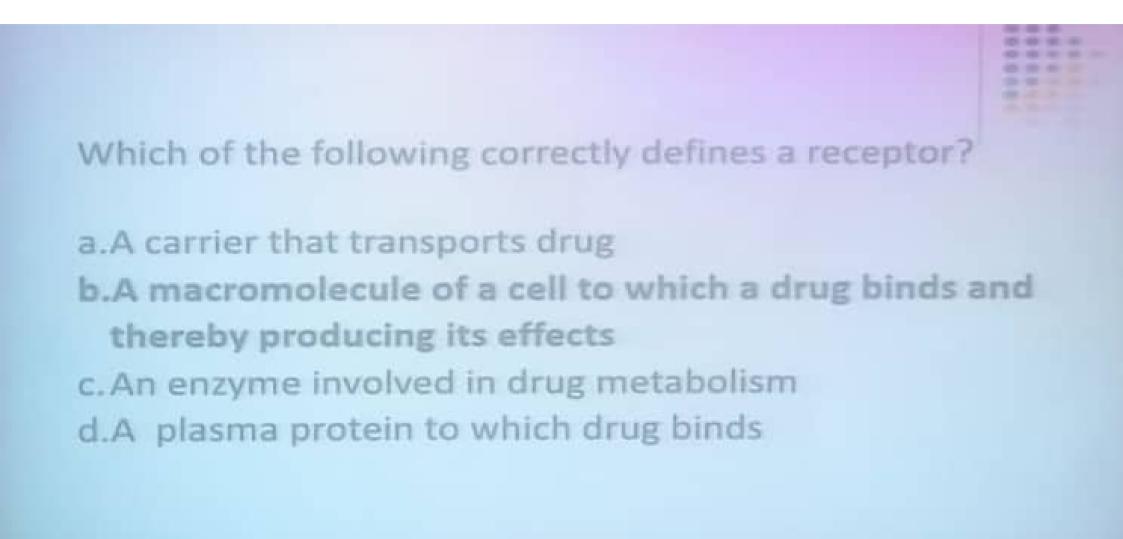
- a. Chemical Antagonism
- b. Competitive Antagonism
- c. Physical Antagonism
- d.Physiological Antagonism

A patient is administered drug A that produces no effect on its own and causes a right and downward shift on the dose response curve of another drug B and decreasing its maximum efficacy. Drug A is most likely an:

- Competitive reversible antagonist
- b. Irreversible antagonist
- Partial Agonist
- d. Physiological Antagonist

A patient was given 200mg dose of drug IV and after 2 hours plasma concentration was 100mg. If the drug follows first order kinetics, what will be the plasma concentration 6hours after its administration.

- a) 25mg
- b) 50mg
- c) 12.5mg
- d) 6.25mg



Which of the following term best describes the conversion of inactive drug into an active product?

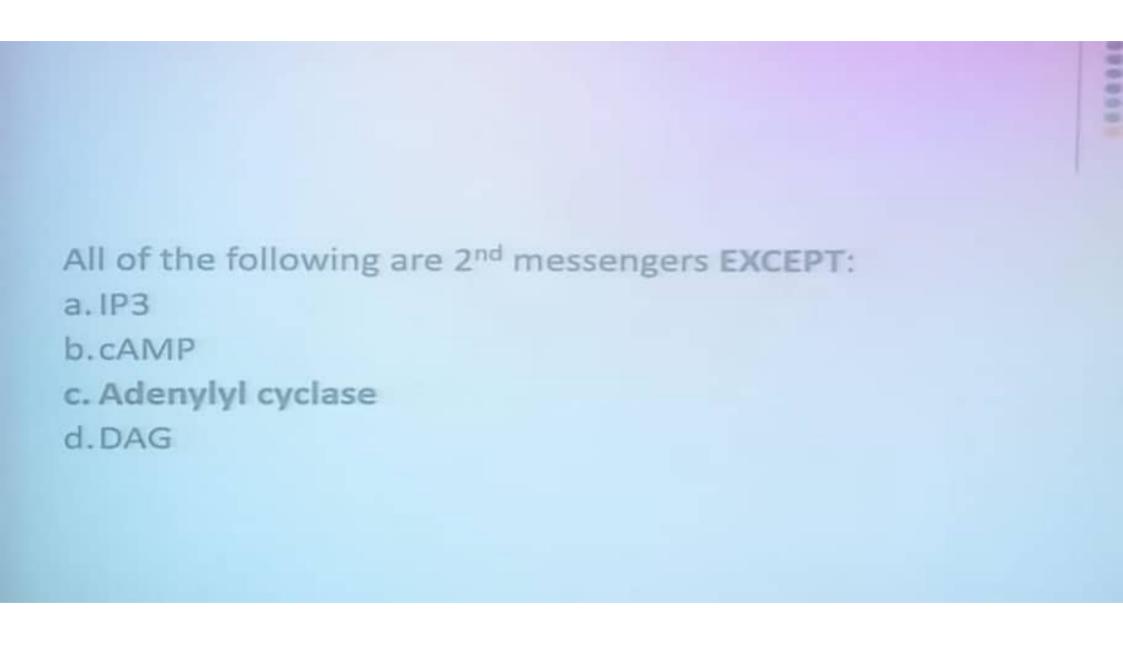
- a) Hoffman elimination
- b) Distribution
- c) Pro drug
- d)Placebo

All of the following statements are true regarding Competitive reversible pharmacological antagonist, EXCEPT:

- a It causes a parallel shift of the dose response curve of an agonist to the right
- ь. It decreases the potency of an agonist
- c. It increases the efficacy of an agonist
- d. Its effect can be overcome by increasing the agonist concentration.

Tolerance and drug resistance can be a consequence of which of the following conditions?

- a. Activation of a drug after hepatic first pass
- ь. Increased Bioavailability
- c. Receptor downregulation
- d. Drug synergism



Which of the following administration routes is most likely to subject a drug to a "first – pass" effect in the liver?

- a. Inhalation
- b. Intravenous
- c. Oral
- d. Sublingual

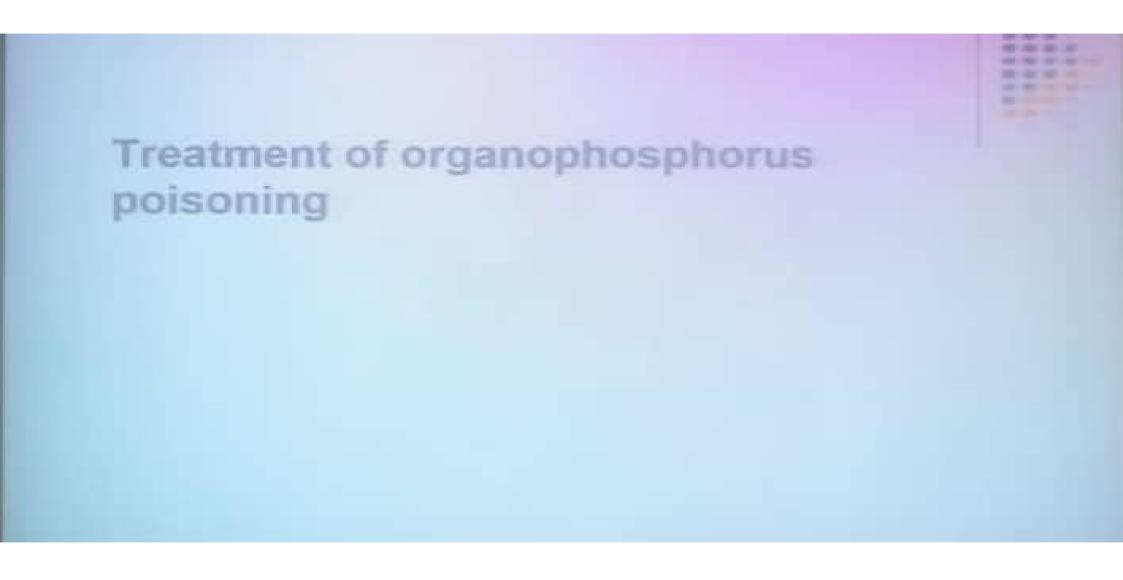
The elimination of a drug is described as being heavily dependent on phase II metabolic reaction. Which of the following is a phase II reaction as far as drug elimination goes?

- a. Acetylation
- s Deamination
- Ester hydrolysis
- d Oxidation

• Which of the following sympathomimetic drug is a non-Catecholamine? a. Adrenaline. b. Noradrenaline. c. Dopamine. a. Ephedrine

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

- a) a1
- b) a.2
- d) \(\beta 2



 A 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)Ephedrine.
- b)Epinephrine.
- c)phenylephrine
- d)Dobutamine

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

- a) Glaucoma
- b). Motion sickness
- c)Parkinson disease
- d) Antidote for organophosphate poisoning

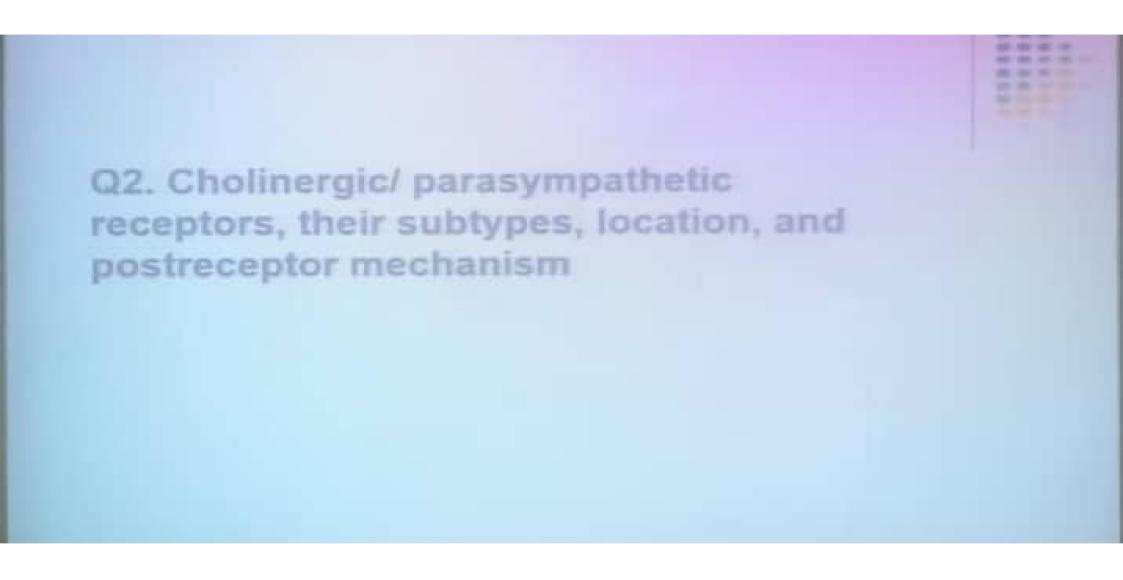
• 60-year-old asthmatic man comes in for a checkup and complains that he is having some difficulty in starting to urinate. Physical examination indicates that the man has a blood pressure of 160/100 mm Hg and a slightly enlarged prostate. Which of the following medications would be useful in treating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

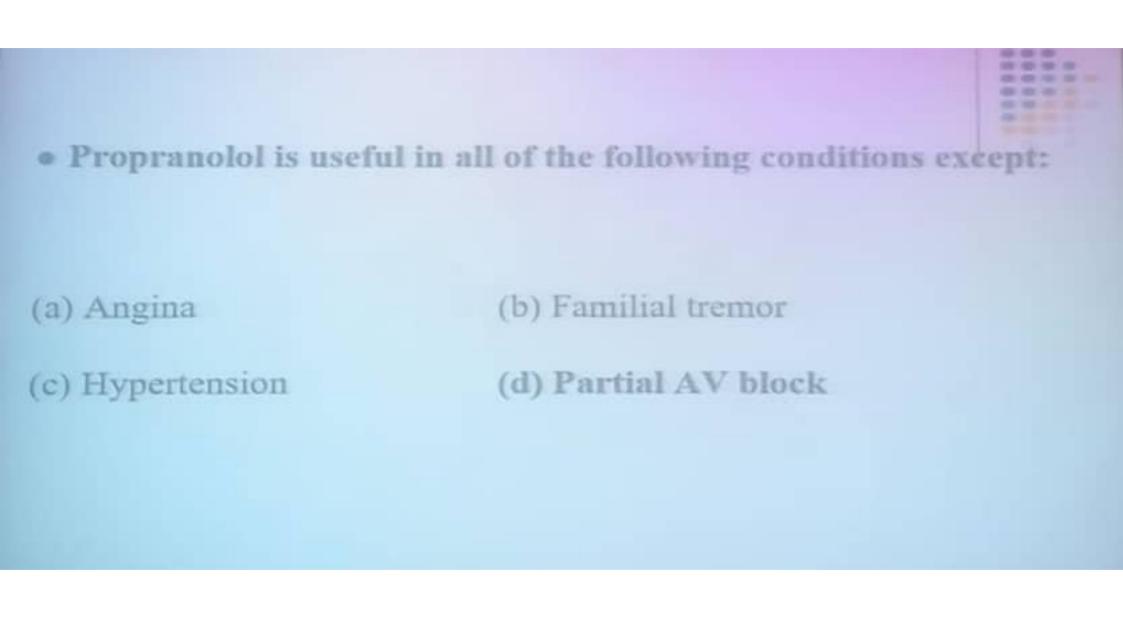
a) Doxazosin.

b)Labetalol.

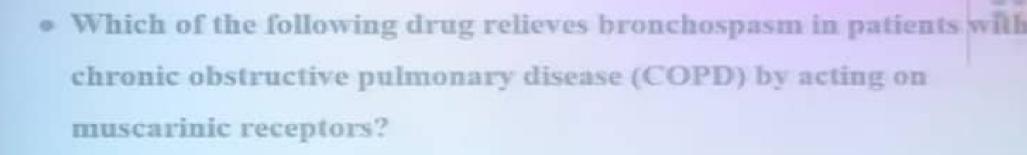
b) c)Phentolamine.

d)Propranolol.





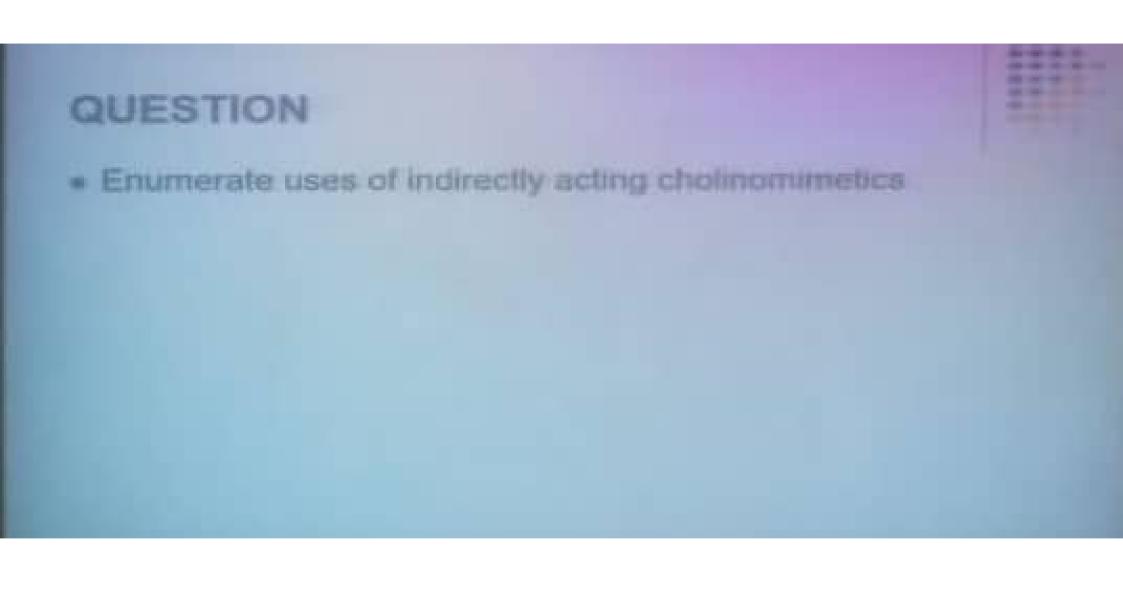
Encircle the characteristics of an orphan drug. a) A very cheap drug b) A drug which has no therapeutic use c) A drug which acts on orphan receptors d) A drug needed for treatment or prevention of a rare disease.

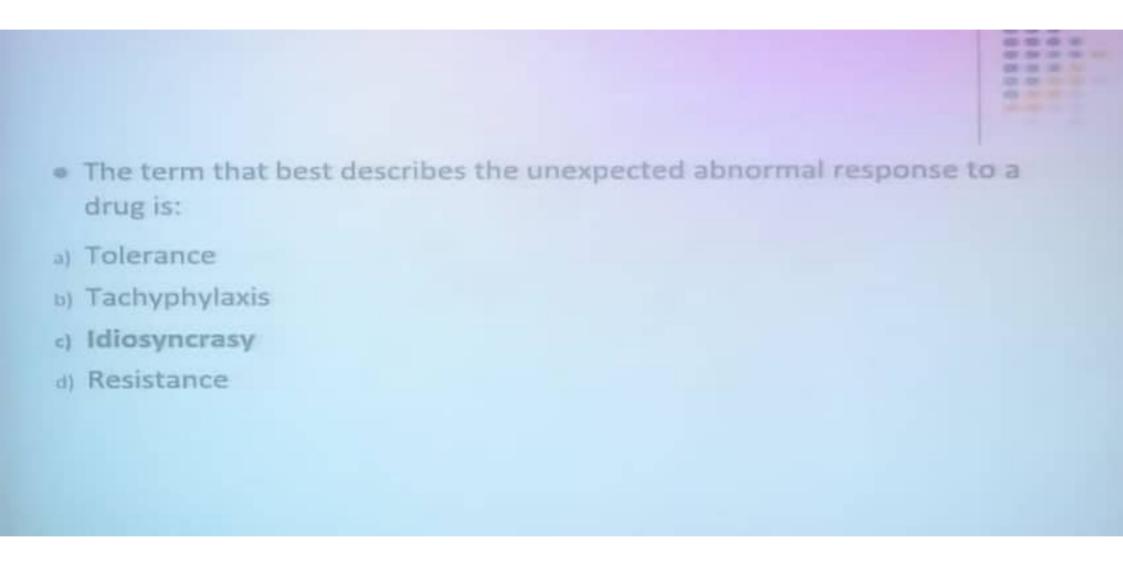


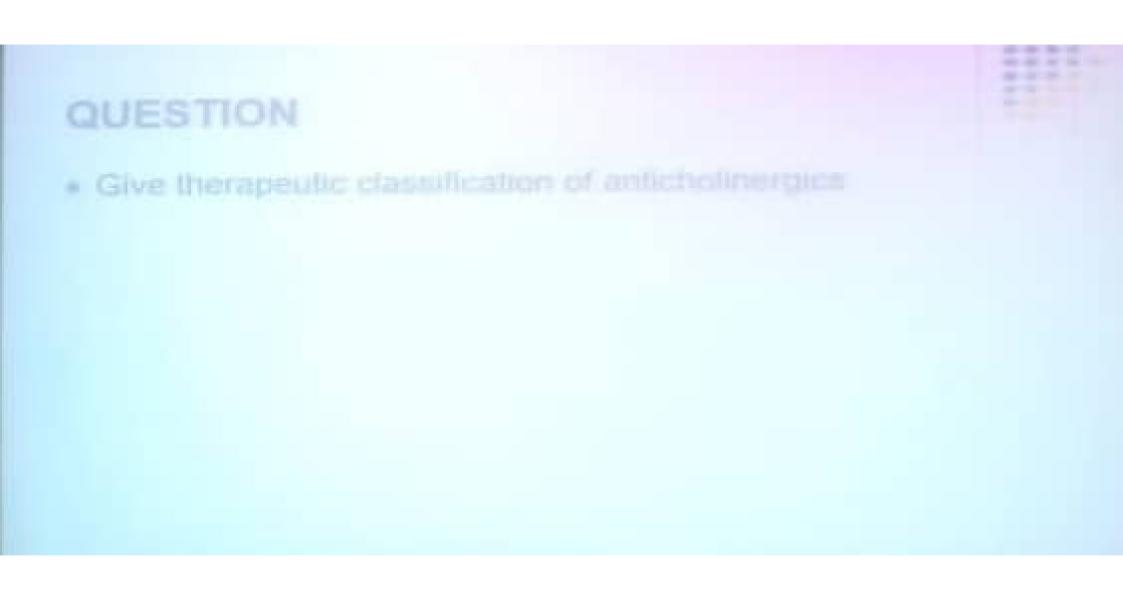
- A. Epinephrine
- B. Ipratropium
- c. Ritodrine
- D. Salbutamol

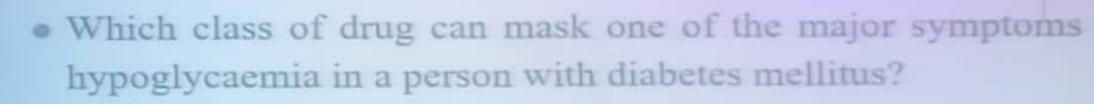
QUESTION

 Tabulate five groups of drugs (with examples) and their mechanism of action used for treatment of glaucoma. Which of the following may precipitate an attack of open angle glaucoma if instilled into eye? a) Physostigmine. b)Atropine. c)Pilocarpine. d)Ecothiophate

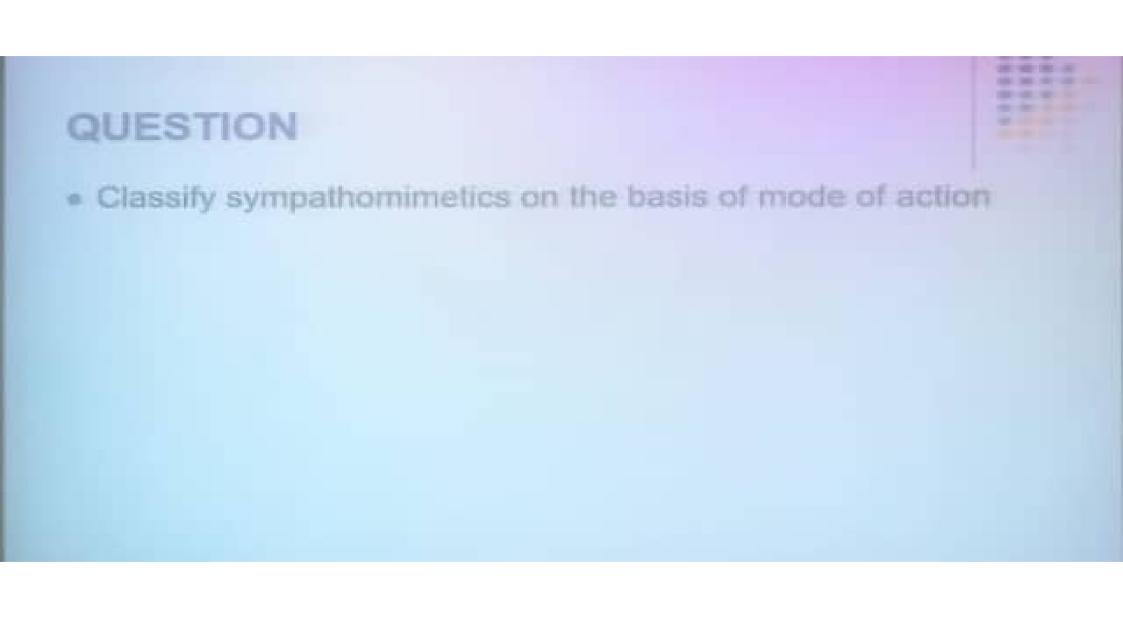


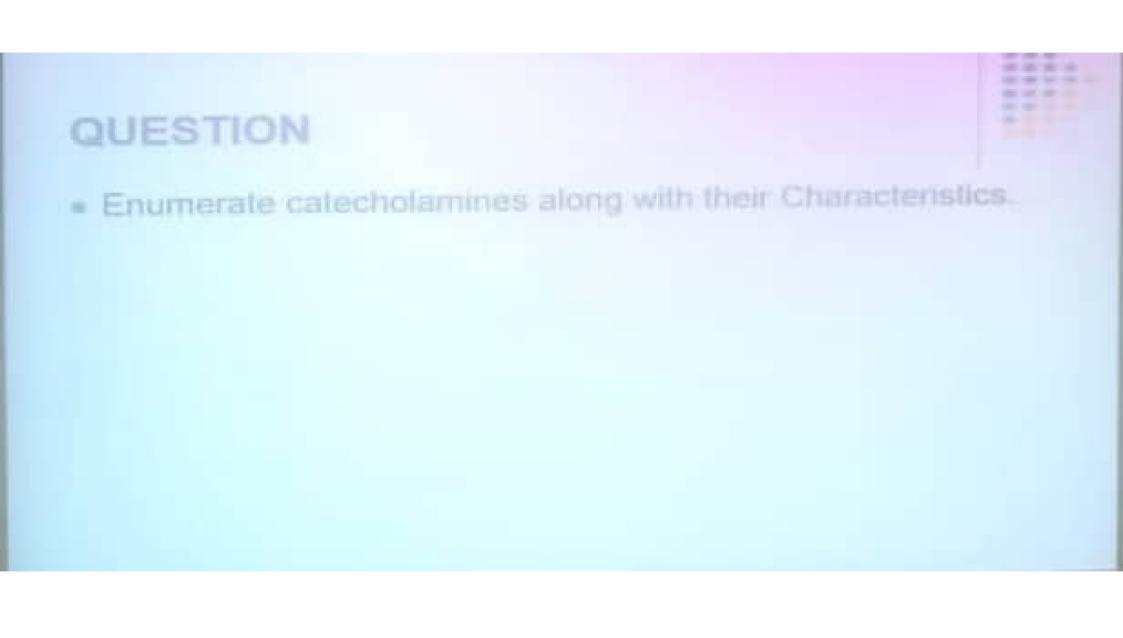


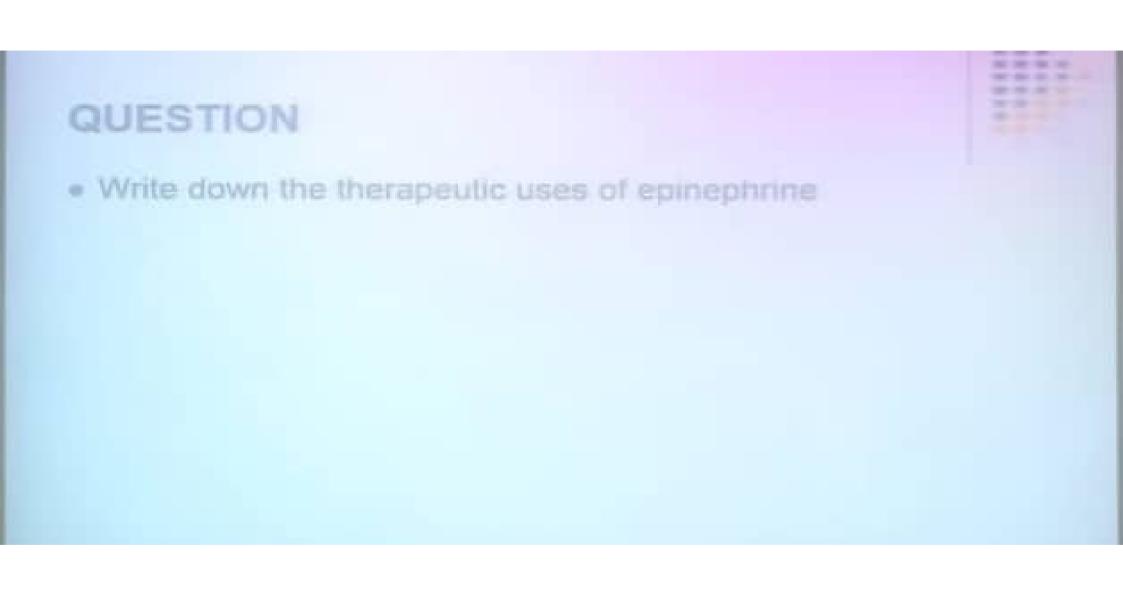




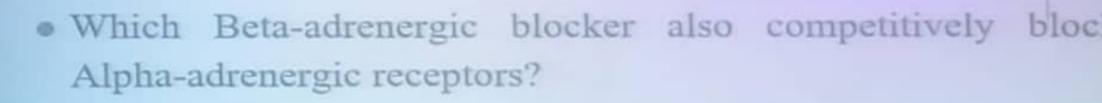
- a. Alpha-adrenergic agonist
- ь. Alpha-adrenergic antagonist
- c. Beta-adrenergic agonist
- d. Beta-adrenergic antagonist





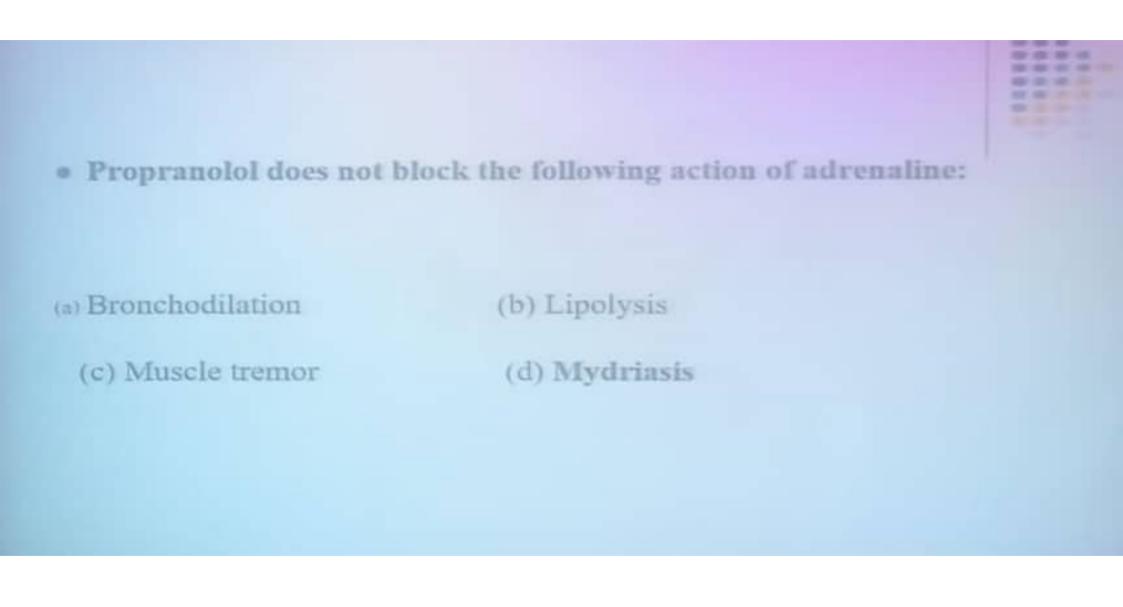


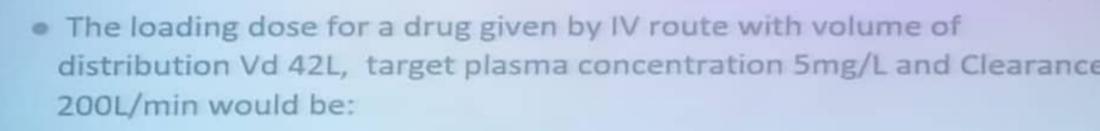




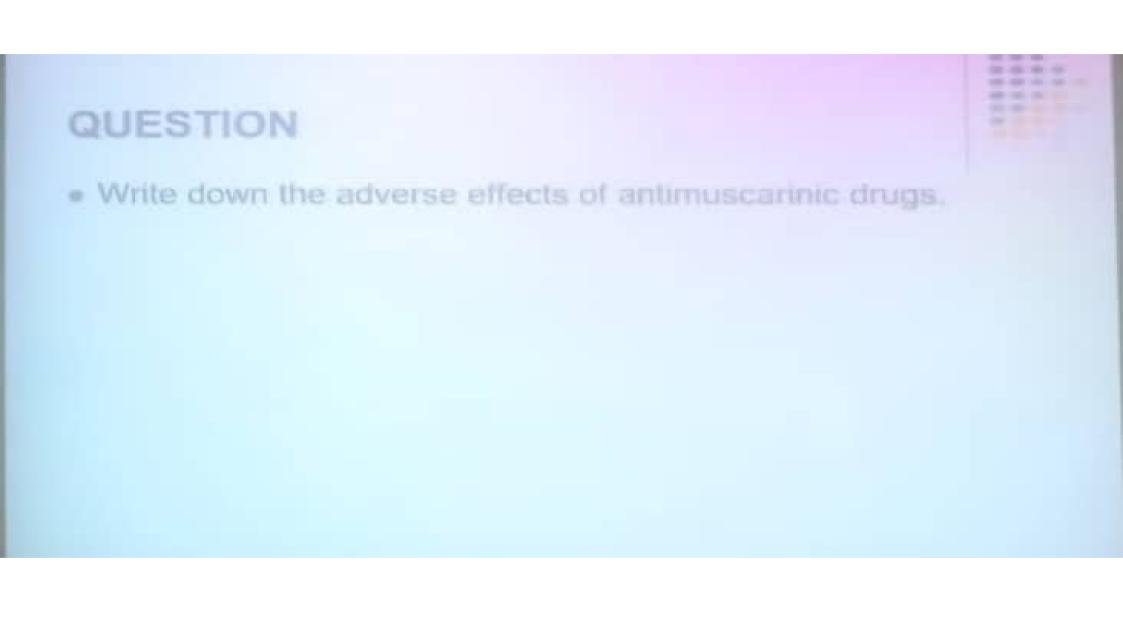
- a. Labetalol
- b. Metoprolol
- c. Nadolol
- d. Pindolol

- . A 45 years old man with long standing diabetes mellitus is admitted to ward from emergency department and you wish to examine his 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





- a) 500mg
- b) 210mg
- c) 1G
- d) 40 mg



- Physostigmine is the antidote for atropine poisoning. Neostigmine is not suitable as an antidote to atropine because it cannot overcome the atropine's adverse effect on which of the following?
- a. Skeletal muscle
- ь. Smooth muscle
- c. Central nervous system
- d. Cardiovascular system

Chronic use of an antagonist over a long period of time may cause an increase in the number of receptors. This is called:

- a. Desensitization
- b. Down regulation
- c. Tolerance
- d. Up regualtion



