Pharmacology

Subject:

First Exam

Previous Year Questions

1. **If 87.5% of a drug is eliminated, via first order kinetics in 15 hours, then the $t_{1/2}$ of this drug is expected to be:**

A. 5 hours

B. 10 hours.

C. 15 hours

D. 30 hours

E. Greater than 30 years.

2. **A pharmacological response might be delayed, reduced or blocked by all of the following except:**

A. A drug that does not go into solution.

B. A drug that does not get into its site of action.

C. Abnormal target receptors.

D. Lack of absorption at site of administration.

E. Interference with drug elimination.

3. **Aspirin is a weak organic acid with a pKa of 3.5, what percentage of a given dose will be unionized at a stomach pH of 2.5?**

A. 1%.

B. 10%

C. 50%

D. 90%

E. 99%.

4. **Drugs that are highly bound (greater than 90%) to plasma proteins are likely to:(vA**

A. Be associated with large volume of distribution.

B. Have very short half-life ($t_{1/2}$)/

C. Be associated with a high therapeutic index.

D. Have long duration of action.

E. Be characterized by none of the above.

5. **Drugs associated with low potency are characterized by:**

A. Big therapeutic doses

B. High therapeutic efficacy.

C. Low therapeutic index.

D. High bioavailability.

E. All of the above.

6. **The oral route of drug administration tends to be associated with all of the following EXCEPT:**

A. Poor compliance.

B. Relative safety.

C. Rapid response.

D. Convenience/

E. Incomplete absorption.

7. **First-pass hepatic effect may occur when a drug is given.**

A. Intramuscularly.

B. Sublingually.

C. Subcutaneously.

D. Rectally.

E. By none of the above.

8. **Which of the following is the expected loading dose (D_L) of a drug having a Vd value of 150 liters, if the desired plasma concentration is 15mg/L?**

A. 75 mg

B. 150mg.

C. 2.25g.

D. 5 g.

E. The D_L cannot be estimated.

9. **The therapeutic index of a drug <u>reflects</u> its:**

A. Relative safety.

B. Duration of action.

D. Onset effects.

E. Potency.

10. **Which of the following is <u>TRUE</u> about half-life of elimination ($t_{1/2}$) of various drugs?**

A. The value of $t_{1/2}$ depends on rate of drug absorption.

B. An increase in K_e is associated with an increase in $t_{1/2}$

C. The $t_{1/2}$ value is required for dose estimation

D. Drugs associated with short $t_{1/2}$ are characterized by low systemic clearance.

E. None of the above.

11. **Biotransformation (metabolism) usually results in a product that is more likely to:**

A. Be highly Jipophilic.

B. Have very extensive tissue distribution.

C. Produce sever side effects.

D. Be inactive pharmacologically.

E. Interact with target receptors.

12. Estimation of the maintenance dose (D_m) of various drugs depends on all of the following EXCEPT

A. The rate of drug absorption (T_{max}).

B. The desired steady state concentration (C_{ss}).

C. The dose interval (T).

D. The drug bioavailability (F).

E. The systemic clearance of the drug (CL).

13. First order elimination process:

A. Can be properly described in terms of $t_{1/2}$.

B. Applies to most drugs in clinical use.

C. Can be applied to rate of drug metabolism^

D. Proceeds at rates dependent on substrate concentration.

E. Is characterized by all the above.

14. Which of the following statements about drug absorption from GIT is CORRECT:

A. The stomach is the major site of drug absorption.

B. The rate of gastric emptying can influence the rate of drug absorption.

C. Drugs are not absorbed from the colon.

D. Active transport is the major mechanism of drug absorption in the GIT.

E. All of the above.

15. The duration of drug action depends on all of the following EXCEPT:

A. The rate of drug metabolism.

B. The systemic clearance of the drug.

C. The administered dose of the drug.

D. The route of drug administration.

E. The potency of the drug.

16. Which of the following statements about drug-receptor interactions is TRUE?

A. An agonist drug interacts with its target receptors and produces a biological response.

B. A reversible antagonist shifts the dose response curve to the right without affecting the maximal response.

C. Drug receptor interaction is a specific process.

D. Partial agonists are drugs that have affinity for receptors with moderate efficacy.

E. All of the above.

17. **Variation in pharmacological responses to drugs among individuals can be attributed to:**

A. Drug-drug interactions.

B. Sex.

C. Diet.

D. Age.

E. All of the above.

18. **Two drug A and B produce the same response via different mechanisms of action. If drug A in a dose of 30 mg produces the same magnitude of effect as drug B in a dose of 1.5 mg, it can be concluded that:**

A. Both drugs are similar in their maximal efficacy.

B. The two drugs have identical therapeutic indices.

C. Drug A is associated with higher affinity to its target receptors compared to

D. Drug A is more potent than drug B.

E. None of the above is correct.

19. Atropine is:

A. A Muscarinic agonist.

B. Contra indicated in bronchial asthma.

E. Commonlv included in the pre-anesthetic medication.

D. Likely to be complicated with intestinal colic.

E. Characterized by all the above.

20. Which of the following is a correct match between a drug and its adverse effects?

A. Hyoscine (a muscarinic antagonist)-------Bradycardia.

B. Propranolol (a beta adrenoceptor antagonist)-------tachycardia.

C. Bethanechol (an acetylcholine like drug)-------glaucoma.

D. Salbutamol (a beta 3 adrenoceptor agonist)-------bronchospasm.

E. None of the above.

21. Epinephrine

A. Is released from the adrenal medulla.

B. Is indicated in the management of anaphylactic shock.

C. Stimulates both alpha and beta adrenoceptors.

D. Is metabolized by COMT and MAO enzyme systems.

E. Is characterized by all of the above.

22. Which of the following is a correct match between a class of drugs and its indication?

A. Beta 2 agonist-------bronchial asthma.

B. Alpha antagonist-------hyperthyroidism.

C. Muscarinic antagonist-------constipation.

D. Beta 2 antagonist-------premature labour

E. All of the above.

23. Which of the following is a correct match between a drug and its class?

A. Propranolol-------non-selective alpha blocker.

B. Prazosin-------non-selective beta agonist.

C. Neostigmine-------cholinesterase inhibitor.

D. Isoproterenol (isoprenaline)-------alpha agonist.

E. All of the above.

24. A 75 year old man suffering from urinary retention and hypertension is best managed by:

A. Bethanechol.

B. Atropine.

C. Doxazosin.

D. Propranolol.

E. Succinyicholine.

25. Beta 2 adrenoceptors are abundant in:

A. Bronchial tree.

B. Arteries of skeletal muscles.

C. Iris of the eye.

D. All of the above.

E. A and B only.

26. Stimulation of the muscarinic receptors in general can lead to all of the following EXCEPT:

A. Miosis

B. Bradycardia.

C. Bronchodilatation.

D. Increased intestinal motility.

E. Increased salivation.

27. **Paralysis of the circular muscles of the iris and cijliary muscles of the (cycloplegia) is induced by:**

A. Carbachol.

B. Norepinephrine.

C. Neostigmine.

D. Atropine.

E. All of the above.

28. All of the following drugs can be used intravenously to induce general anesthesia EXCEPT:

A. Lidocaine.

B. Thiopental.

C. Midazolam.

D. Ketamine.

E. Propofol.

29. **Local anesthetics mediate their effects mainly by blocking:**

A. Pain receptors.

B. Neurotransmitter release.

C. Calcium channels.

D. Sodium channels.

E. Chloride channels.

30. Which of the following statements about diazeparn is false?

A. It is indicated in the management of status epilepticus.

B. It is considered a benzodiazepine derivative.

C. It is a sedative hypnotic agent.

D. Its prolonged use can be complicated with tolerance and dependence.

E. It is characterized with a narrow therapeutic index.

31. All of the following are produced by morphine except:

A. Euphoria.

B. Mydriasis.

C. Vomiting.

D. Constipation.

E. Sedation.

32. Generalized tonic-clonic convulsions do not respond to:

A. Ethosuximide.

B. Carbamazepine.

C. Phenytoin.

D. Valproic acid.

E. Phenobarbital.

33. All of the following drugs can be included in the preanesthetic medications EXCEPT:

A. Thiopental.

B. Pethidine (demerol)

C. Diazepam.

D. Morphine.

E. Atropine.

34. **Barbiturates:**

A. With long duration of action can be exemplified by thiopental.

B. Are safer than benzodiazepines.

C. Are not associated with tolerance.

D. Use can be complicated with great induction of liver enzymes.

E. Are characterized by all the above.

35. **All of the following centrally acting drugs match their adverse effects EXCEPT:**

A. L-dopa-------vomiting.

B. Phenytoin-------gingival hyperplasia.

C. Chlorpromazine ------- postural hypotension.

D. Heroin -------respiratory center depression.

E. Codeine-------convulsions.

36. TCA can be complicated by all of the following EXCEPT:

A. Convulsions.

B. Weight gain.

C. Cardiac arrhythmias.

D. Parkinson's like syndrome.

E. Constipation.

37. **A11 of the following centrally acting drugs are likely to be complicated with tolerance and dependence EXCEPT:**

A. Phenobarbital.

B. Pethidine.

D. Ethanol.

E. Diazepam.

38. Which of the following is true about drug acting on the CNS?

A. Drugs acting on CNS are poorly absorbed orally.

B. All drugs affecting the CNS act as neurotransmitter agonists or antagonists. •

C. All drugs acting on the CNS are metabolized in the brain before being eliminated.

D. The pharmacological effects are generally attributed to modification's of neuronal transmission in CNS. E. All of the above.

39. All of the following drugs used in Parkinson's disease enhance dopaminergic system EXCEPT:

A. Amantadirie.

B. Bromocriptine.

C. Selegiline.

D. Benztropine.

E. L-dopa.

40. Phenothiazines, as antipsychotics can be employed in the management of:

A. Schizophrenia.

B. Parkinson's disease.

C. Sever anxiety states.

D. All of the above.

E. A and C only.