Formative Assessment
Department of Pharmacology
General pharmacology

MCQS: **Date: 01-12-20**

Encircle the correct option.

1. Drugs with high plasma protein binding have;
    a) Longer duration of action
    b) Less drug interactions
    c) Low volume of distribution
    d) Rapid rate of excretion.
    e) Rapid rate of metabolism

2. When two different chemicals act on two different receptors and their response is opposite to each other on the same cell, this effect is called as:
    a) Physiological antagonism
    b) Chemical antagonism
    c) Reversible antagonism
    d) Competitive antagonism
    e) Non-competitive antagonism

4. Which of the following types of drug metabolizing enzymes are inducible:

a) Microsomal enzymes
b) Non-microsomal enzymes
c) Tyrosine kinases
d) Phospholipase C

5. A 31-year old man, with bronchial asthma, is brought to the emergency department complaining of severe dyspnea. Immediate medication should be administered by which of the following routes?

   a) Inhalational
   b) Subcutaneous
   c) Sublingual
   d) Topical

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6. Which of the following is phase II drug metabolizing reaction?
    a) Acetylation
    b) Hydrolysis
    c) Oxidation
    d) Reduction

7. A drug that binds to a receptor and produces a biological response that mimics the response to the endogenous ligand is known as:

    a) Agonist
    b) Antagonist
    c) Functional antagonist
    d) Partial agonist

8. A 67-year old hospitalized patient with a deep venous thrombosis is currently on intravenous heparin. Over dose of heparin has been administered because of calculation error. Protamine sulfate is immediately given intravenously. This agent works by which of the following mechanisms of action?

   a) Agonist
   b) Chemical antagonism
   c) Functional agonism
   d) Partial agonism
   e) Partial antagonism

9. A 15-year old boy who has diabetes and is insulin dependent is brought to the emergency department after collapsing at a baseball game. His blood sugar is 463 mg/dL. Which of the following routes of administration would be the most efficacious for medications to bring the blood sugar down?

a) Intramuscular
b) Intravenous
c) Oral
d) Subcutaneous
e) Sublingual

10. Which of the following drug may inhibit the hepatic microsomal P-450 Enzymes?

a) Rifampin
b) Phenobarbitone
c) Ethanol
d) Cimetidine
e) Phenytoin

11. The fraction of administered dose of a drug that reaches systemic circulation in an unchanged form is called?

a) First pass effect
b) Clearance
c) Bioavailability
d) Elimination
e) Zero order kinetics

12. The process by which the amount of drug is metabolised before reaching systemic circulation

a) Bioavailability
b) First pass effect
c) First order kinetics
d) Elimination
e) Biotransformation.

13. The elimination kinetics in which the rate of elimination of drug is independent of its plasma concentration is called?

a) Clearance
b) First order kinetics
c) First pass effect
d) Therapeutic window
e) Zero order kinetics

14. Drugs which undergo high degree of first pass effect in liver

a) Have low oral bioavailability
b) Are excreted primarily in bile
c) Have high oral bioavailability
d) Are excreted unchanged

15. Which of the following routes of drug administration bypasses 50 percent first pass effect?
    a) Oral
    b) Sublingual
    c) Rectal
    d) Topical

16. The passage of drug molecules from a region of high drug concentration to a region of low drug concentration is known as

a) Active transport
b) Bioavailability
c) Passive transport
d) Simple diffusion

17. The loading dose (DL) of a drug is usually based on the

a) Total body clearance of the drug

b) Percentage of drug bound to plasma proteins

c) Fraction of drug excreted unchanged in the urine

d) Apparent volume of distribution (Vd) and desired drug concentration in plasma

e) Area under the plasma drug concentration versus time curve (AUC)

18. Which of the following characteristic of drug is held responsible for redistribution in the body?

a) Highly plasma protein bound drugs

b) Depot preparations

c) Poorly lipid soluble drugs

d) Highly lipid soluble drugs

19. Which of the following statement is correct related to weakly acidic drugs?

a) Are bound primarily to alpha-1 acid glycoprotein in plasma

b) Are excreted faster in acidic urine

c) Are highly ionized in the gastric juice

d) Does not bind to plasma proteins

20. Which of the following statement best describes a pro-drug?

a) Active drug which is converted into more active metabolite

b) Inactive compound used for research purpose

c) An inactive drug that is transformed in the body to an active metabolite

d) A drug that is stored in body tissues and is then gradually released in the circulation

21. Induction of drug metabolizing enzymes involves

a) Decease synthesis of enzyme protein

b) Expression of enzyme molecules on the of hepatocytes

c) Enhanced transport of substrate molecules into hepatocytes

d) Increased synthesis of enzyme protein

22. The elimination kinetics in which half-life remains constant is called?

a) Clearance
b) First order kinetics
c) First pass effect
d) Therapeutic window
e) Zero order kinetics

23. A patient is given 800mg of a drug intravenously, after 30 minutes plasma concentration of drug is measured 40mg. What would be the volume of distribution of this drug?

a) 20L

b) 30L

c) 35L

d) 40L

24. Half-life of a drug is known to be 2 hours; after how much time steady state concentration would be achieved?

a) 15 hours

b) 20 hours

c) 6 hours

d) 10 hours

25. Drugs manufactured for the diseases in which the expected number of patients is small is known as;

a) Pro drug
b) Teratogenic drug
c) Placebo drug
d) Orphan drug

1. Enumerate two disadvantages of oral route of drug administration

2. What is drug absorption? Enumerate the 2 factors affecting it.

3. Define the following terms with suitable examples

i) Agonist ii) Partial agonist

4. What are the various types of drug antagonism. Give at least one example for each type

5. What is hepatic enzyme induction and list two drugs that are known to cause it.

4. What are the various types of drug antagonism. Give at least one example for each type

5. What is hepatic enzyme induction and list two drugs that are known to cause it.

6 . Enlist two the factors affecting volume of distribution of a drug

7. : Define the following terms:

I. Bioavailability
II. First Pass effect