MBS 230 Pharmacology Test 1

1.The non-ionized lipid soluble drug with low molecular weight is usually absorbed by:

1 point
- Pinocytosis
- Passive diffusion
- Active transport
- Filtration

2.Which of the following is a liquid medication dissolved in a sugar and water solution?

1 point
- elixir
- syrup
- suspension
- emulsion

3.The primary route of administration of insulin is:

1 point
- intradermal
- subcutaneous
- intramuscular
- intravenous

4.When a non-competitive antagonist to the histamine receptor is injected. Which of the following best describes this agent?the drug

1 point
- binds to the histamine receptor and partially activates it
- binds to the histamine receptor but does not activate it
- binds to the histamine receptor, at the different site and prevents activation
- irreversibly binds to the histamine receptor and renders it ineffective

5.Two drugs A and B have the same mechanism of action. Drug A at a dose of 5 mg produce the same magnitude of effect as drug B at a dose of 500 mg. This means that

1 point

drug B is less efficacious than drug A
drug A is more potent than drug B
toxicity of drug A is less than that of drug B
drug A is more effective than drug B

6.“Nicotinic” sites include all of the

1 point
Bronchial smooth muscle
Adrenal medullary cells
Parasympathetic ganglia
Skeletal muscle

7.The name "paracetamol" is best described as the drug’s:

1 point
Chemical name
Generic name
Group name
Brand name

8.Local anesthetics produce:

1 point
Analgesia, amnesia, loss of consciousness
Blocking pain sensation without loss of consciousness
Alleviation of pain with an altered level of consciousness
Stupor or somnolent state

9.Most drug receptors are

1 point
Small molecules with a molecular weight between 100 and 1000
Lipids arranged in a bilayer configuration
Proteins located on cell membranes or in the cytosol
DNA molecules

10.Which of the following is true of ‘placebos’:

1 point
Placebos have no therapeutic effect
Placebo is the inert material added to the drug for making tablets
Placebos produce better therapeutic effects
90% of all patients respond to placebos

11.An undesirable effect of a drug that occurs at therapeutic doses and can be predicted from its pharmacological actions is called:

1 point
- Adverse drug reaction
- Side effect
- Toxic effect
- Idiosyncrasy

12.The rate of drug absorption is greatest in

1 point
- The stomach
- The small intestine
- The large intestine
- The rectum

13.Bioavailability is the

1 point
- Proportion of administered drug that reaches the systemic circulation in changed form
- Proportion of administered drug that reaches the systemic circulation in unchanged form
- Proportion of susceptibility of body tissues to the given drug
- Ability of administered drug to reach its target of action

14.The loading dose (LD) of a drug is usually based on the

1 point
- Percentage of drug bound to plasma proteins
- Fraction of drug excreted unchanged in the urine
- Apparent volume of distribution (VD) and desired drug concentration in plasma
- Area under the plasma drug concentration versus time curve (AUC)

15.Surface anaesthesia is used for the following except:

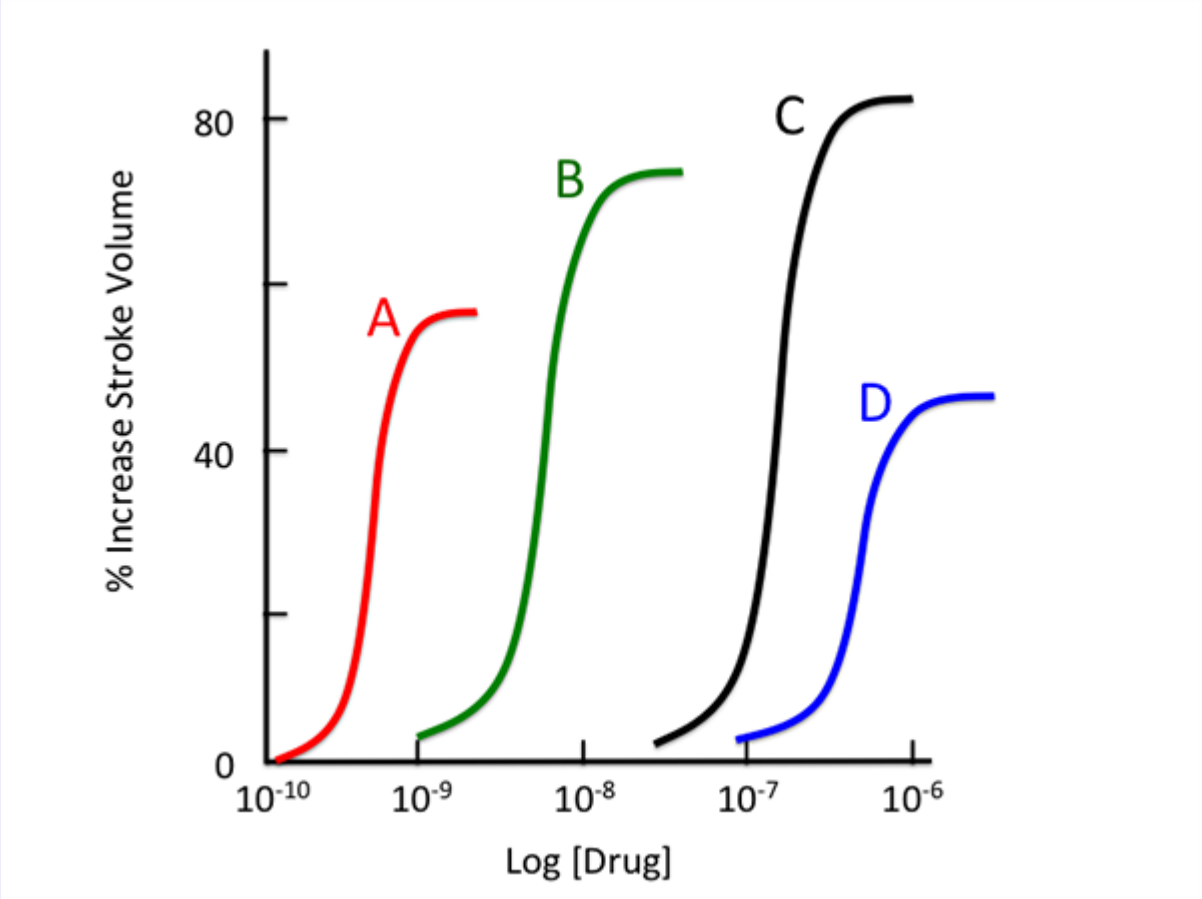
1 point
- Ocular tonometry
- Urethral dilatation
- Tooth extraction
- Anal fissure

16.Acidic drugs, such bind primarily to which of the following plasma proteins?

1 point
- Alpha-1-fetoprotein
- Gamma Globulin
- Albumin
- Alpha-1-acid glycoprotein

17.which drug is the most efficacious?

1 point



A
B
C
D

18.Which of the following steps is most critical to achieve a therapeutic drug concentration in plasma?

1 point

Absorption
Distribution
Elimination
Metabolism

19.Bioavailability of an agent is maximal when the drug has which of the following qualities?

1 point

Highly lipid soluble
More than 100 daltons in molecular weight

highly bound to plasma proteins
highly ionised

20.The therapeutic index of a drug is a measure of its:

1 point
safety
potency
efficacy
dose variability

21.First pass effect occurs in which one of the following routes of administration?

1 point
Oral
Sublingual
Rectal
Intravenous

22.Physical process by which a weak acid becomes less water-soluble and more lipid-soluble at low pH is

1 point
Elimination
First-pass effect
Permeation
Protonation

23.A patient is given a one-time 100mg dose of drug. Administration of the medication results in a peak plasma concentration of 20µg/mL. What is the apparent volume of drug distribution?

1 point
0.2 L
50000L
5 L
2000 L

24.The pharmacokinetic parameter which determines the speed of drug input that must balance the speed of drug elimination to achieve a steady-state concentration

1 point
clearance

dosing rate
bioavailability
volume of distribution

25.The clearance is

1 point

dependent upon the value of volume of distribution
dependent upon the value of half-life
the efficiency of the organ in extracting the drug
a function of the physiologic volume of blood and tissues

26.A competitive antagonist is a substance that:

1 point

binds to one receptor subtype as an agonist and to another as an antagonist
binds to the same receptor site and progressively inhbits the agonist response
interacts with receptors and produces suboptimal response
binds to non specific site of tissues

27.Volume of distribution:

1 point

is always a real volume
amount of drug in plasma concentration in body
concentration of drug in plasma amount of drug in blood
amount of drug in body concentration of drug in plasma

28.The addition of glucuronic acid to a drug:

1 point

Decreases its water solubility
Usually leads to inactivation of the drug
Is an example of a Phase I reaction
Involves cytochrome P450tion 4

29.First order kinetics of the drugs is called when

1 point

A constant fraction of the drug is removed in per unit time
A constant amount of the drug is removed in per unit time
Total amount of the drug is removed in one hour
Total amount of the drug is removed in first passage through the kidneys

30.Which one of these receptor subfamilies has a millisecond response?

1 point

type 1 ligand-gated ion channels
type 2 G-protein coupled
type 3 kinase-linked
type 4 nuclear receptors

31.What is the major second messenger of beta receptor activation that participates in signal transduction?

1 point
Inositol triphosphates
calcium
cAMP
adenylyl cyclase

32.A patient receives a single dose of antibiotics following a prostate needle biopsy. He takes 500 mg of ciprofloxacin immediately after completion of the procedure. The half-life of the medication is 8 h. At approximately how many half-lives will it take for 90% of the drug to be excreted from the body?

1 point
2.0
4.2
3.0
3.3

33.which equation is true for a zero-order reaction rate of drug?

1 point
dA/dt = - k
t½ = 0.693/k
A = A0e -kt

34.In which phase of drug development would teratology and toxicology studies be carried out?

1 point
0
1
2
3

35.Local anesthetics block:

1 point

Calcium channels
Potassium channels
Sodium channels
Dopamine receptors

36.Biotransformation of the drugs is to render them:

1 point
Less ionized
More pharmacologically active
More lipid soluble
Less lipid soluble

37.What type of drugs can cross the blood-brain barrier (BBB)?

1 point
Large and lipid-soluble
Large and lipid-insoluble
Small and lipid-soluble
Small and lipid-insoluble

38.When an inactive form of the drug is being activated in the body, it is called?

1 point
Toxic metabolite
Pro-drug
Pro-metabolite
Up regulation

39.Drug B has a half-life of 3 hours. If the initial plasma level of the drug, given as a single dose, is 3600mg/L, what will its plasma level be after 10 hours?

1 point
450
375
325
300

40.after how many half-lives is steady-state concentration of drug achieved?

1 point
1-2 T 1/2
3-5 T ½

6-8 T ½
9-11 T ½