PHARMACOLOGY TEST BANK 2021

DONE BY:
ALZAHRAA ABU-ZAHRA & HEBA SHUBEIR

2ND WEEK

Q1: First pass effect is:

a) Amount of drug that is eliminated by the liver by hepatic artery.

b) The amount of the drug passed with stool after oral administration.

c) The amount of the drug destroyed by stomach acidity after oral administration of drugs for the first time.

d) Amount of drug lost due to hepatic metabolism during drug absorption for the first time after oral administration.

e) The amount of drug that bypass the Cirrhosed liver after oral administration through portosystemic anastomosis.

Q2: What does the term “bioavailability” mean?

a) Amount of a substance in urine relative to the initial doze

b) Fraction of an unchanged drug reaching the systemic circulation following any route administration

c) Permeability through the brain-blood barrier

d) Plasma protein binding degree of substance

Q3: Most of the drugs are distributed homogeneously

a) True

b) False

1 d 2b 3 b

Q4) The volume of distribution (Vd) relates:
a) An administrated dose to a body weight
b) Single to a daily dose of an administrated drug
c) An uncharged drug reaching the systemic circulation
d) The amount of a drug in the body to the concentration of a drug in plasma

Q5: Factor(s) that influence bioavailability of drugs:
a) First-pass hepatic metabolism
b) Solubility of the drug
c) Chemical instability in GIT
d) Nature of the drug formulation
e) All of the above

Q6: The volume of distribution for a drug that is completely retained in the vascular compartment would be.
a) High
b) Low
c) Unchanged
d) Cannot be determined

Q7)Drugs showing zero-order kinetics of elimination
a) Are more common than showing first-order kinetics
b) Shows exponential decrease with time
c) Have a t1/2 independent of dose
d) Show a plot of drug concentration versus time that is linear
e) Shows a constant fraction of the drug eliminated per unit time

4 d 5 e 6 b 7 b

Q8: A 27-year-old female with vulvovaginal candidiasis is given a one-time 100 mg dose of oral fluconazole. She has no other pertinent medical problems and takes no prescription medications. Administration of the medication results in a peak plasma concentration of 20 mg/L. What is the apparent volume of drug distribution?

a) 0.5 L
b) 1 L
c) 3 L
d) 5 L
e) 50 L

Q9: All of the following about free drugs (unbound drags) in plasma are correct EXCEPT:

a) Highly bound drugs (98% bound) have clinically significant drug-drug interactions with other drugs through displacement from binding sites on plasma protein
b) Only free drugs can pass through glomerular filtration
c) Only free drugs become available for hepatic metabolism
d) Only free drugs can distribute to peripheral tissues
e) Basic drugs bind with acidic binding sites on plasma globulins while acidic drugs bind with basic binding sites on plasma albumin

Q10) Half life (t1/2) is the time required to:

a. Change the amount of a drug in plasma by half during elimination
b. Metabolize a half of an introduced drug into the active
c. Absorb a half of an introduced drug
d. Bind a half of an introduced drug to plasma proteins

8 d 9 a 10 a

Q11: All of the following statements related to the binding of drugs by plasma proteins are correct EXCEPT?

a) Bound drug is unable to diffuse into tissue until it becomes unbound.

b) A drug that is bound by plasma proteins will have a smaller apparent volume of distribution than if it were not bound.

c) Displacement of the bound drug by another drug can increase the effects of a given dosage of the first drug.

d) Bound drug is the pharmacologically active part of the drug

e) Acidic drugs are bound mostly to plasma albumin.

Q12)If a drug is eliminated by first order kinetics

a) A constant amount of the drug will be eliminated per unit time

b) Its clearance value will remain constant

c) Its elimination half-life will increase with dose

d) It will be completely eliminated from the body in 2 x half-life period

11d 12 b

STUDY QUESTIONS,PAGE:23(LIPPINCOTT,6TH EDITION)

1.3 Which of the following types of drugs will have maximum oral bioavailability?

A. Drugs with high first-pass metabolism.
B. Highly hydrophilic drugs.
C. Largely hydrophobic, yet soluble in aqueous solutions.
D. Chemically unstable drugs.
E. Drugs that are P-glycoprotein substrates.

1.4 Which of the following is *true* about the blood–brain barrier?

A. Endothelial cells of the blood–brain barrier have slit junctions.
B. Ionized or polar drugs can cross the blood–brain barrier easily.
C. Drugs cannot cross the blood–brain barrier through specific transporters.
D. Lipid-soluble drugs readily cross the blood–brain barrier.
E. The capillary structure of the blood–brain barrier is similar to that of the liver and spleen.

1.5 A 40-year-old male patient (70 kg) was recently diagnosed with infection involving methicillin-resistant *S. aureus*. He received 2000 mg of vancomycin as an IV loading dose. The peak plasma concentration of vancomycin was reported to be 28.5 mg/L. The apparent volume of distribution is:

A. 1 L/kg.
B. 10 L/kg.
C. 7 L/kg.
D. 70 L/kg.
E. 14 L/kg.

1.3

Correct answer = C. Highly hydrophilic drugs have poor oral bioavailability, because they are poorly absorbed due to their inability to cross the lipid-rich cell membranes. Highly lipophilic (hydrophobic) drugs also have poor oral bioavailability, because they are poorly absorbed due their insolubility in aqueous stomach fluids and therefore cannot gain access to the surface of cells. Therefore, drugs that are largely hydrophobic, yet have aqueous solubility have greater oral bioavailability because they are readily absorbed.

1.4

Correct answer = D. Lipid-soluble drugs readily cross the blood–brain barrier because they can dissolve easily in the membrane of endothelial cells. Ionized or polar drugs generally fail to cross the blood–brain barrier because they are unable to pass through the endothelial cells, which do not have slit junctions.

1.5

Correct answer = A. V_d = dose/C = 2000 mg/28.5 mg/L = 70.1 L. Because the patient is 70 kg, the apparent volume of distribution in L/kg will be approximately 1 L/kg (70.1 L/70 kg).