PAST PAPERS – PHARMACOLOGY

بسم الله الرحمن الرحيم

Pharmacokinetics

Lec2 :slide (2-27)
Lec3 :slide (28-46)
Lec4 :slide (47-66)
Lec5 :slide (67-93)

﴿ وَإِن تَتَوَلَّوْا يَسْتَبْدِلْ قَوْمًا غَيْرَكُمْ ثُمَّ لَا يَكُونُوا أَمْثَالَكُم ﴾

اللهم استعملنا ولا تستبدلنا

Done by:

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Pharmacokinetics Pt1
Lecture 2

(2018)

In the following, what describes distribution?

a) The tightness that drug bind to receptor
b) Irreversible transport from site of administration to the bloodstream
c) Drug leaving the blood to peripheral tissue
d) Proportional to drug concentration in plasma (First order kinetics implied)

Ans : c

(2018)

In the following, what describes absorption?

a) The tightness that drug bind to receptor
b) Irreversible transport from site of administration to the bloodstream
c) Drug leaving the blood to peripheral tissue
d) Proportional to drug concentration in plasma (First order kinetics implied)

Ans : b

(2018)

In the following, what describes affinity?

a) The tightness that drug bind to receptor
b) Irreversible transport from site of administration to the bloodstream
c) Drug leaving the blood to peripheral tissue
d) Proportional to drug concentration in plasma (First order kinetics implied)

Ans : a

(2023)

Major factor affecting absorption:

A. Lipid Solubility

B. Drug size

C. Lipid/water partition coefficient

Ans :A

(2018)

The addition of glucuronic acid to a drug?

a) Lowers its water solubility
b) Usually leads to inactivation of drug
c) Is an example of phase I reactions
d) Involves cytochrome P450

Ans : b

(2023)

If bicarbonate is administered to make urine more alkaline which of the following statements is correct:

A-Acids would be excreted

B-Bases would be excreted

C-The binding of acids to plasma proteins would be affected

D-Decreased glomerular filtration

Answer: A

(2023)

Major factor affecting distribution:

A-Organ selectivity
B-Surface Area
C-Natural Barriers
D-Protien Binding

Answer: D

(2023)

Major site of drug absorption:

A. Intestine
B. Stomach
C. Oral mucosa
D. Skin

Answer:A

(2023)

Which of the following is not a process of pharmacokinetics:

A. Mechanism of Action
B. Absorption
C. Metabolism
D. Distribution
E. Excretion

Answer:A

(2022)

The most important mechanism of drug movement through compartments and membranes :

A-Aqueous diffusion

B- special carriers

C-lipid diffusion

D-endocytosis and exocytosis

Ans :C

(2022)

The incorrect statement is:

A. basic drugs will be unionized in basic urine
B. Acidic drugs will ionized in acidic urine
C. basic drugs will be ionized in Acidic urine
D. Acidic drugs will ionized in basic urine

Ans :B

(2022)

Compound used to alkalize urine :

A. sodium bicarbonate (NaHCO3)
B. B. Ammonium chloride (NH4Cl)
C. C. Sodium chloride (NaCl)
D. D. Ascorbic acid (vitamin C)

Ans :A

(2021)

What are adverse drug reactions (ADRs)

A. The synergistic effects that are seen when some drugs are administered concurrently
B. Responses to increased drug doses required to achieve the same physiological outcome.
C. Unintended alternative physiological responses caused by the drug that cause harm to the patient.
D. Harmful chemical interactions between two drugs that are used to treat the same clinical symptoms.

Ans :C

(2021)

To excrete weak acids faster in urine, we give the patient

A. Ammonia chloride
B. sodium bicarbonate.
C. Vitamin C
D. Citric acid

Ans :B

(2021)

Lipid diffusion is directly proportional to all of the following EXCEPT:

A. Area across which the diffusion occurs
B. Permeability coefficient
C. Concentration gradient
D. Blood supply
E. Length of the diffusion path

Ans :E

(2020)

A pharmacological response might be reduced by all of the following EXCEPT:

A. Low solubility of drug
B. Abnormal target receptors
C. Lack of absorption at site of administration
D. Interference with drug elimination

Ans :D

(2020)

Proteins which a drug molecule bind are:

A. Receptors
B. Ion channels
C. Carriers
D. All of the above

Ans :D

(2020)

What's implied by (active transport)?

A. Transport of drugs through a membrane by means of diffusion
B. Transport without energy consumption
C. Engulf of drug by a cell membrane with a new vesicle formation
D. Transport against concentration gradient

Ans :D

(2020)

What kind of substances can't penetrate membranes by passive diffusion

A. Lipid soluble
B. Non-ionized
C. Hydrophobic
D. Hydrophilic

Ans :D

(2020)

Pharmacokinetics is:

A. The study of biological and therapeutic effect of drugs
B. The study of absorption, distribution, metabolism and excretion of drugs
C. The study of mechanisms of drug action
D. The study of methods of new drug development

Ans :B

(2020)

All of the following is true about drug metabolism EXCEPT?

A. pro-drug must be metabolised to their active forms
B. First-order kinetics metabolism means constant amount of drug is metabolised per unit time
C. In zero-order kinetics metabolism the enzyme is saturated
D. None of the above

Ans :B

(2020)

The following factor(s) determine drug distribution:

A. Blood flow
B. Capillary permeability
C. Binding of drug to plasma proteins
D. All of the above

Ans :D

(2020)

The following factor(s) influencing drug absorption

A. Blood flow to the absorption area

B. Total surface area available

C. Contact time at the absorption surface

D. All of the above

Ans :D

(2020)

All of the following about passive absorption is true EXCEPT:

A. The driving force is concentration gradient

B. Doesn't involve a carrier

C. The process shows a low structural specificity

D. The process is saturable

Ans :D

What is the most important mechanism for drugs to enter the body?

A) Active transport

B) Facilitated diffusion

C) Lipid diffusion

D) Endocytosis

Ans :C

Pharmacokinetics pt2
Lecture 3

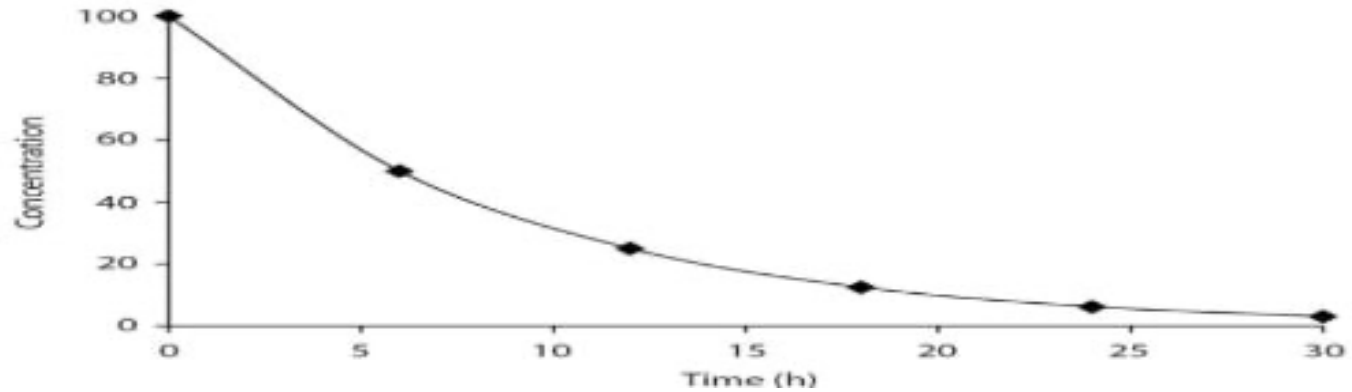
Based on this graph, What is the route of administration of this drug:

A)Oral

B) Intradermal

C)Intravenous

D) Intramuscular



The graph shows an immediate high concentration of the drug at time zero, indicating direct entry into the bloodstream, which is characteristic of intravenous administration.

Ans :C

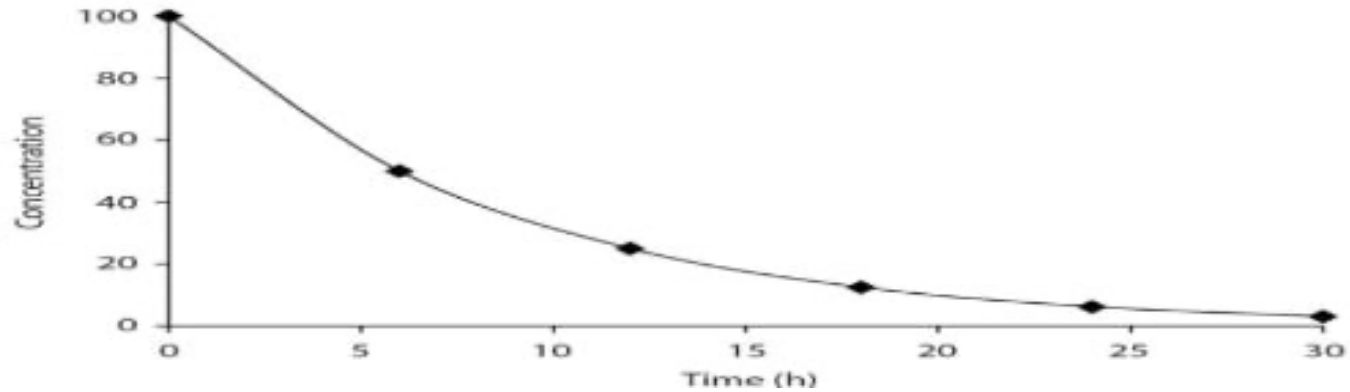
Based on this graph, What is the bioavailability of this drug :

A)25%

B) 50%

C)75%

D) 100%



The graph shows an immediate high concentration of the drug at time zero, indicating direct entry into the bloodstream, which is characteristic of intravenous administration.

Ans: D

First-pass effect is:

A) The process by which drugs are metabolized by enzymes in the stomach before entering the bloodstream.

B) The phenomenon where drugs absorbed from the gastrointestinal tract must pass through the gut wall and portal vein to the liver before reaching systemic circulation.

C) The increased bioavailability of drugs when administered intravenously compared to oral administration.

D) The effect of food on drug absorption, which alters the pharmacokinetics of orally administered medications.

Ans : B

First pass effect mean :

A-Drugs that will be metabolized in the intestines, portal vein, liver before reaching the systemic circulation

B-Drugs that will reach the systemic circulation without being metabolized

C-Drugs taken orally will have the same bioavailability to the Drugs taken IV

D-It doesn't affect bioavailability

Ans :A

Factors reduce the bioavailability:

A-First pass effect
B-Enterohepatic cycle
C-Incomplete absorption
D-Faulty manufacturing of the dosage form
E-All of the above

Ans :E

Bioavailability is :

A-The fraction of unchanged active drug reaching the systemic circulation, Following the drug administration; irrespective of the route.

B-The fraction of the metabolized drug in portal vein, gut wall and in the liver.

C-The amount of the drug eliminated form the body.

D-None of the above

Ans :A

Which route of drug administration is most likely to lead to the first pass effect?

A)Sublingual

B)Oral

c)Intravenous

d) Intramuscular

Ans :B

Which pharmacokinetic parameter best describes the overall exposure of the body to a drug?

A) Volume of distribution (Vd)

B) Clearance (Cl)

C) Area Under the Curve (AUC)

D) Half-life ($t_{1/2}$)

Ans :C

In the administration of an intravenous (IV) drug, the C_{max} is reached instantaneously due to which of the following reasons?

A) No absorption is needed

B) The drug immediately undergoes metabolism

C) The distribution phase is neglected

D) Both A and C

Ans :D

Grapefruit juice may increase the bioavailability of cyclosporine. Which of the following is the most reasonable mechanism of this effect?

A-Reduction of distribution into tissues.

B-Enhancement of lipid solubility.

C-Inhibition of the efflux transporter, P-glycoprotein.

D-Reduction of plasma protein binding.

E-Prevention of renal excretion.

Ans :C

Which of the following processes occurred before the drug enters the systemic circulation?

A- Distribution

B-Drug therapeutic effect

C-First pass metabolism

D-Drug elimination through kidney

E-Protein binding

Ans :C

Bioavailability of 0.2 (or 20%) means:

A-Approximately 80% of the drug reaches the systemic circulation as intact drug

B-Approximately 20% of the drug reaches the systemic circulation as intact drug

C-The drug has 80% bioavailability when administered intravenously

D- Bioavailability is irrelevant to the route of administration

Ans :B

True about bioavailability:

A- Drugs are absorbed by all routes of extravascular (non-intravenous) administration

B-Only oral drugs have bioavailability

C-Bioavailability is the same regardless of the route of administration

D-Bioavailability is only relevant for intravenous drugs

Ans :A

Which of the following statements is true regarding the Area Under the Curve (AUC) in pharmacokinetics?

A) AUC represents the mathematically integrated area under the plasma concentration-time curve.

B) Two drugs with different concentration-time profile shapes can have the same AUC, indicating equivalent total drug exposure.

C) AUC is solely determined by the rate of drug absorption.

D) Both A and B

Ans :D

(2022)

First-pass effect refers to:

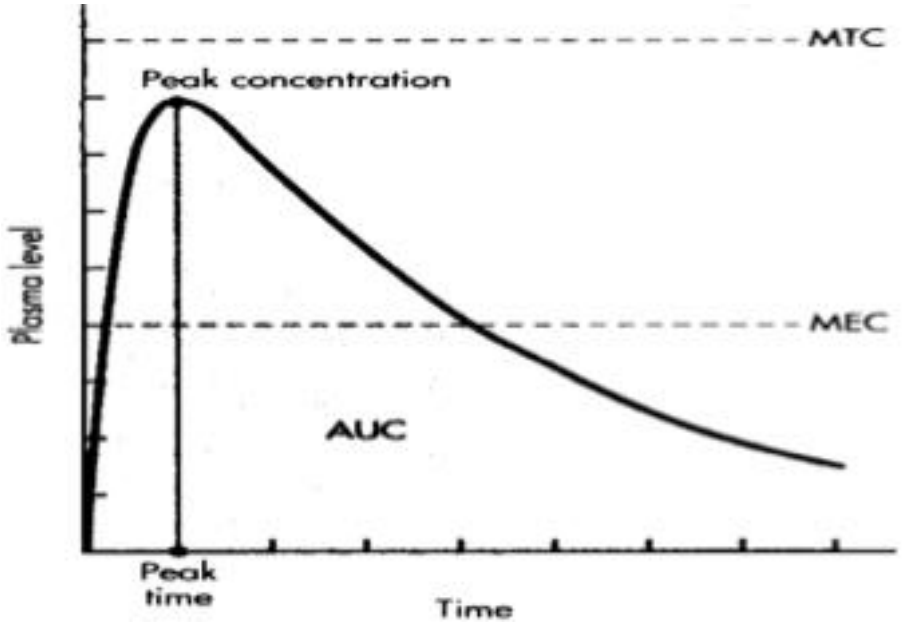
A. Enterohepatic circulation
B. Rapid metabolism

Ans: B

(2021)

Look carefully at this figure What is the route of administration used?

A. Oral
B. Rectal
C. Intravenous bolus injection
D. Intravenous infusion
E. Inhalation



Ans: A

(2020)

Not a component of first pass effect:

Answer: Metabolism by gut flora

(2020)

Which of the following is an enzyme inhibitor:

Answer: Grapefruit

Pharmacokinetics Pt3
Lecture 4

(2022)

If the apparent volume of distribution of a certain drug is 20 L and the dose given in milligrams is 100, calculate the concentration of the drug in plasma at time zero.

A. 0.5 mg/L
B. 0.05 mg/L
C. 5 mg/L
D. 0.2 mg/L
E. 2 mg/L

Ans: C

(2021)

Which is true about VD :

A. VD relates drug concentration in blood to total amount of drug in the body
B. VD is the actual physical volume occupied by the drug in the body
C. VD is typically higher for water-soluble drugs than for lipid-soluble drug
D. VD is only relevant for drugs that are eliminated via renal excretion
E. VD indicates the concentration of a drug at its target site in the body.

Not the exact exam choices

Ans: A

(2021)

A drug with a Volume of Distribution (VD) of 12 L is likely to distribute primarily into which of the following compartments?

A. Plasma only

B. plasma + interstitial fluid

C. Intracellular fluid

D. Total body water (intracellular + extracellular fluid)

E. Fat tissue

Ans: B

(2021)

True about VD :

A. Rough indication of overall distribution
B. Accurate indication of overall distribution
C. May indicate that the drug is sequestered at some extra vascular tissue

Ans: A+C

(2021)

Amiodarone has a Volume of Distribution (VD) of 4200 L in a 70 kg person. This indicates that it primarily distributes to which of the following tissues?

A. Plasma only

B. Extracellular fluid (plasma + interstitial fluid)

D. Liver, lung, adipose tissue, and eye

Not the exact exam choices

Ans: D

(2021)

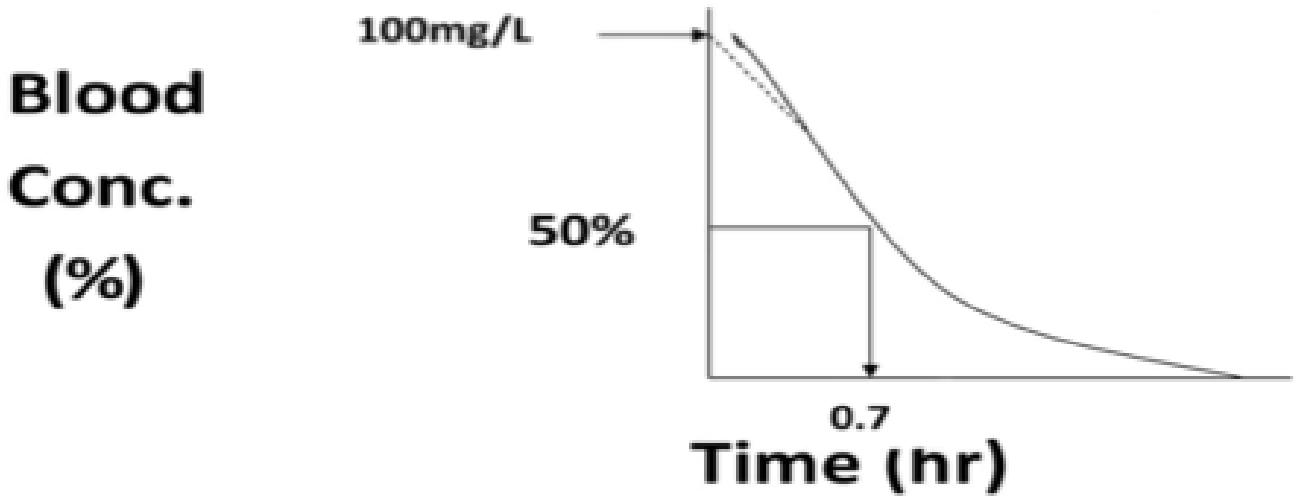
According to the previous graph, if the given dose is 100 mg, Calculate AVD:

A. 1 L

B. 1 L^-1

C. 0.5 L

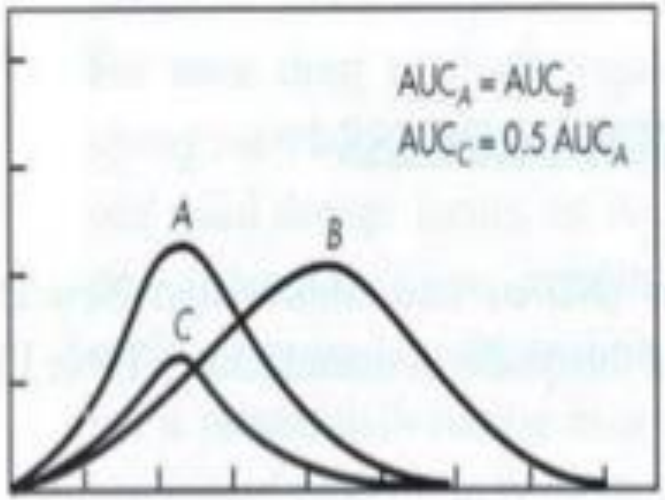
D. 0.5 L^-1



Ans: A

(2021)

One of the following is correct about these drugs that gives the same effect :



A. formulation A will have the same extent when compared With formulation C
B. formulation A will have the same rate when compared With formulation C
C. formulation A will have an earlier onset action when compared With formulation B
D. formulation A will have the same rate when compared With formulation B

Ans: C

(2021)

If a patient had an intravenous dose equal to 650mg , and the plasma concentration ofthe drug was 5mg / L , find the volume of distribution:

A. 13 L

B. 130 L

C. 1300 L

D. 1.3 L

Ans: B

(2021)

High volume of distribution means :

A. A.the drug is significantly distributed in the circulation.
B. The drug found in high concentrations in the body fluids
C. the drug is significantly distributed in the tissues.
D. The drug found in low concentrations in the body fluids
E. C+ D

Ans: E

(2020)

A 78-year-old woman is started on digoxin for her congestive heart failure (CHF).Her initial dose is 0.25 mg. The CO, obtained by extrapolation of the elimination-phase, is determined to be 0.05 mg/L. What is the patient's apparent volume of distribution?

A. 0.5 L
B. 0.2 L
C. 0.0125 L
D. 1 L
E. 5 L

This is not the same question from the exam, this question is taken fromBRS Pharmacology but has the same idea.

Ans: E

(2020)

If the volume of distribution for Chloroquine is 13000L, you expect to find it:

A. In the blood
B. In the ECF
C. Bound to plasma proteins
D. Extensively bound to tissues

Ans: D

(2020)

Hydrophilic drug with a law molecular weight is most likely to distribute to which of the following compartments:

A. extracellular fluid
B. Plasma
C. Total body water
D. A+ B

Ans :C

(2020)

High plasma protein binding

A. Increases the volume of distribution of the drug
B. Facilitates glomerular filtration of the drug
C. Minimizes drug interactions
D. Generally makes the drug long acting

Ans: D

(2020)

A patient is treated with drug A, which has high affinity for albumin and is administered in amount that don't exceed the binding capacity of albumin, A second drug B also has high affinity for albumin but is administered in amounts that are 100 times the binding capacity of albumin. what happens after administering drug B?

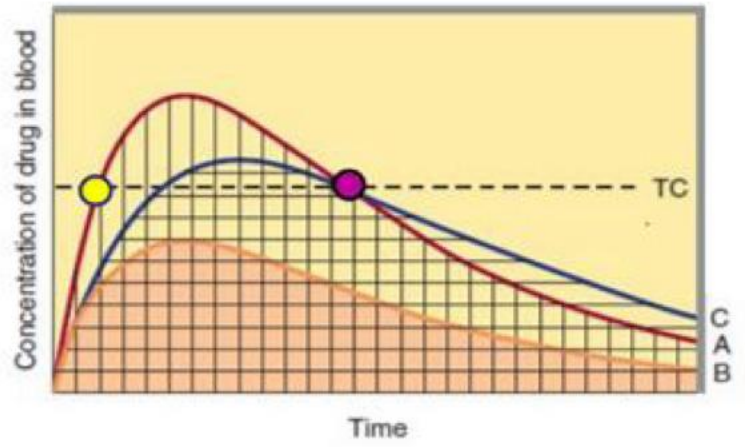
A. Increase tissue concentration of drug A
B. Increase serum concentration of unbound drug
C. Decrease tissue concentration of drug A
D. Decrease half-life of drug A

Ans: B

(2020)

Which of the following is true regarding the bioequivalence:

A. A & C are not bioequivalent
B. A produces effect faster then C
C. B Is bioequivalent to A
D. C produces effect faster then A



Ans: A+B

(2020)

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. Displacement of the bound drug by another drug can increase the effects of a given dosage of the first drug
C. Bound drug is the pharmacologically active part of the drug
D. None of the above

Ans :C

(2019)

IF your patient is taking drug A and prescribe him drug B, after which he startto suffer from a side effect that known to be caused by drug A. Which of thefollowing is not a possible cause?

A. Drug B may displace drug A from the albumin binding site
B. Drug B enhanced the enzyme that responsible for drug A metabolism
C. Drug A and B are actively excreted from the same nephritic site.
D. Drug B has the same side effect
E. Drug B increase the absorption of drug A

Ans: B

(2019)

All of the following statements about plasma protein binding of a drug are true-except

A. Displacement of a drug from plasma protein binding sites makes more free drug-available for glomerular filtration
B. Drugs that are highly bound to plasma proteins generally have a greater VD compared with drugs that are highly bound to tissue proteins
C. Displacement of a potent drug that is normally more than 95% bound may cause toxicity
D. Displacement of a drug from plasma protein binding sites results in a transient increased volume of distribution (VD)
E. Albumin is the major protein involved in protein binding of drugs

Ans: B

(2019)

If your patient is elderly and has a reduction in total body water and increase in total body fat, in comparison with a normal adults, which of the following is incorrect?

A. For a fat soluble drug the concentration of the drug in the fat is usually higher than that in the normal patients.
B. For a water soluble drug, the half life is shorter.
C. For a water soluble drug the volume of distribution is higher.
D. For a water soluble drug the serum level is usually higher than that in the normal patients
E. For a fat soluble drug the half life is longer

Ans :C

Pharmacokinetics Pt4
Lecture 5

(2023)

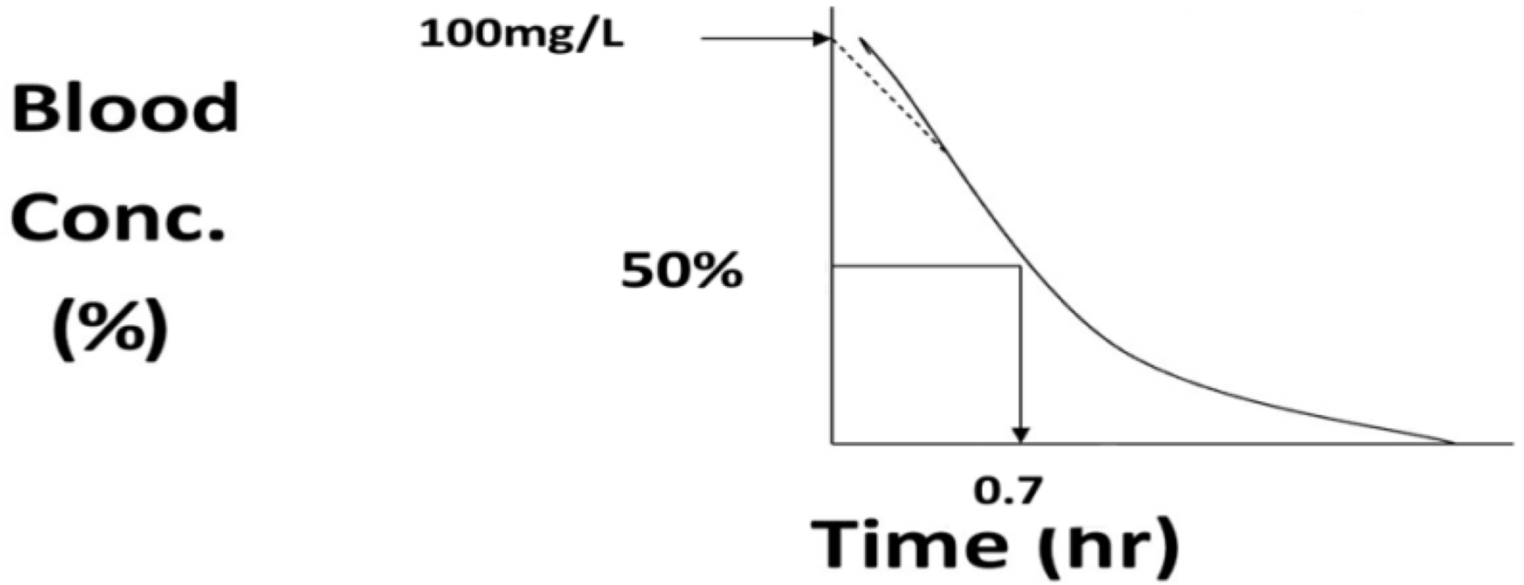
Based on this graph, When will the drug reach steady state?

A .2 hr

B. 5 hr

C. 3.5 hr

D. 4-5 hr



Answer:C

(2023)

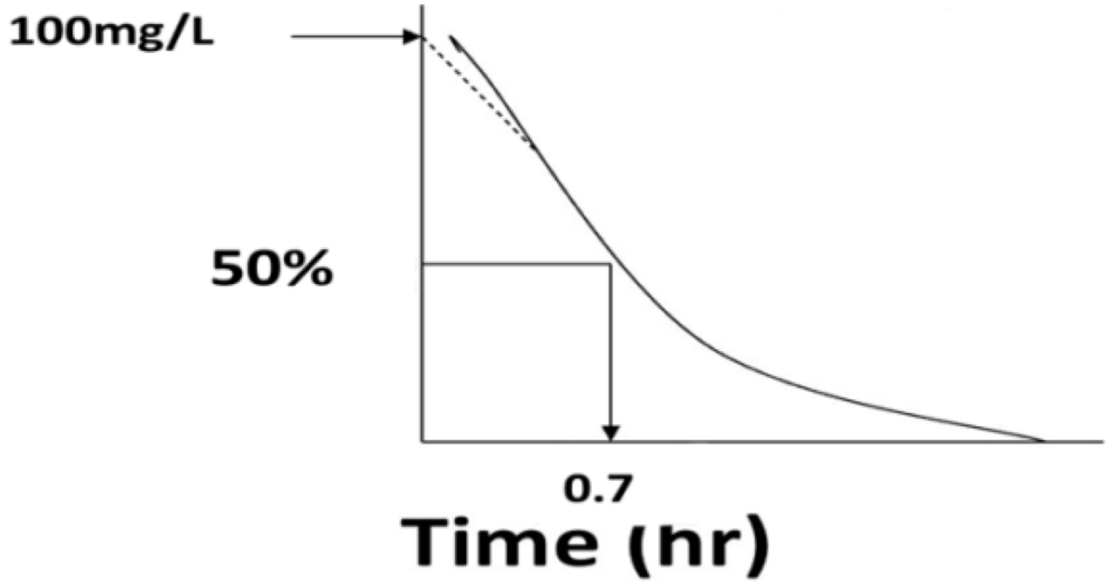
According to the previous graph, Calculate Ke (approximately)

A. 1 hr

B. 0.1 hr

C. 1 hr^-1

D. 0.1 hr^-1



Ans :C

(2023)

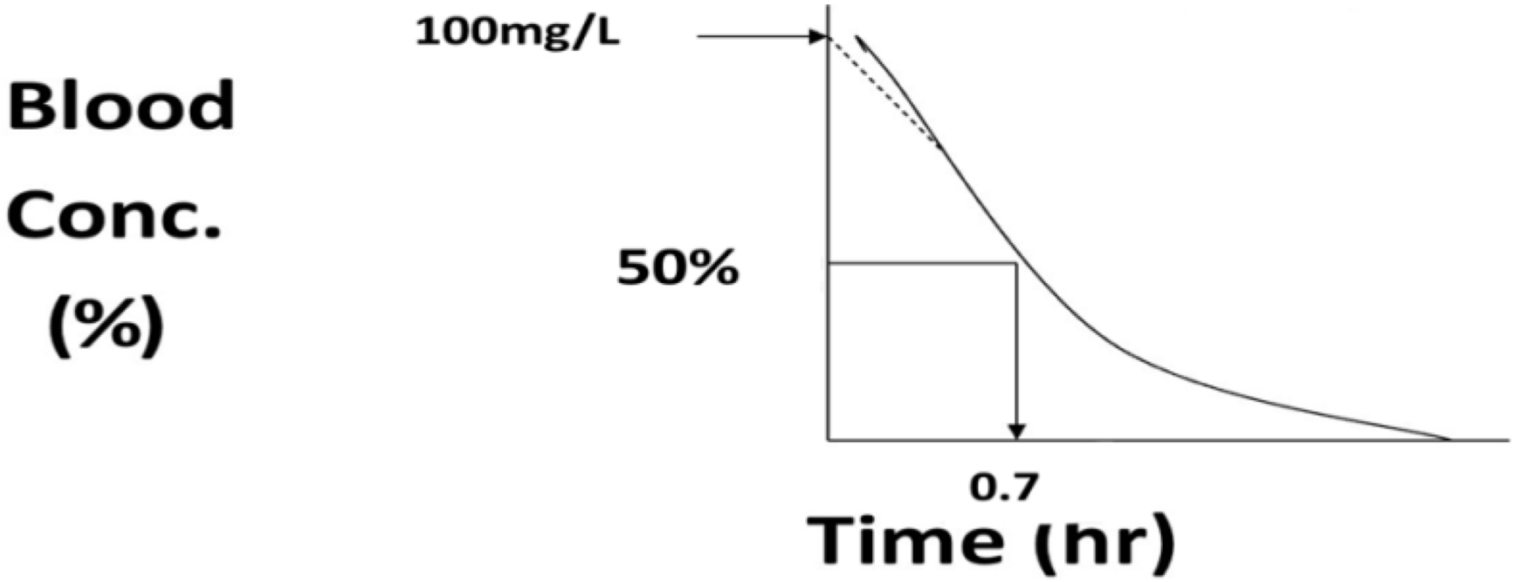
According to the previous graph, if the given dose is 100 mg, Calculate AVD:

A.1 L

B. 1 L^-1

C. 0.5 L

D. 0.5 L^-1



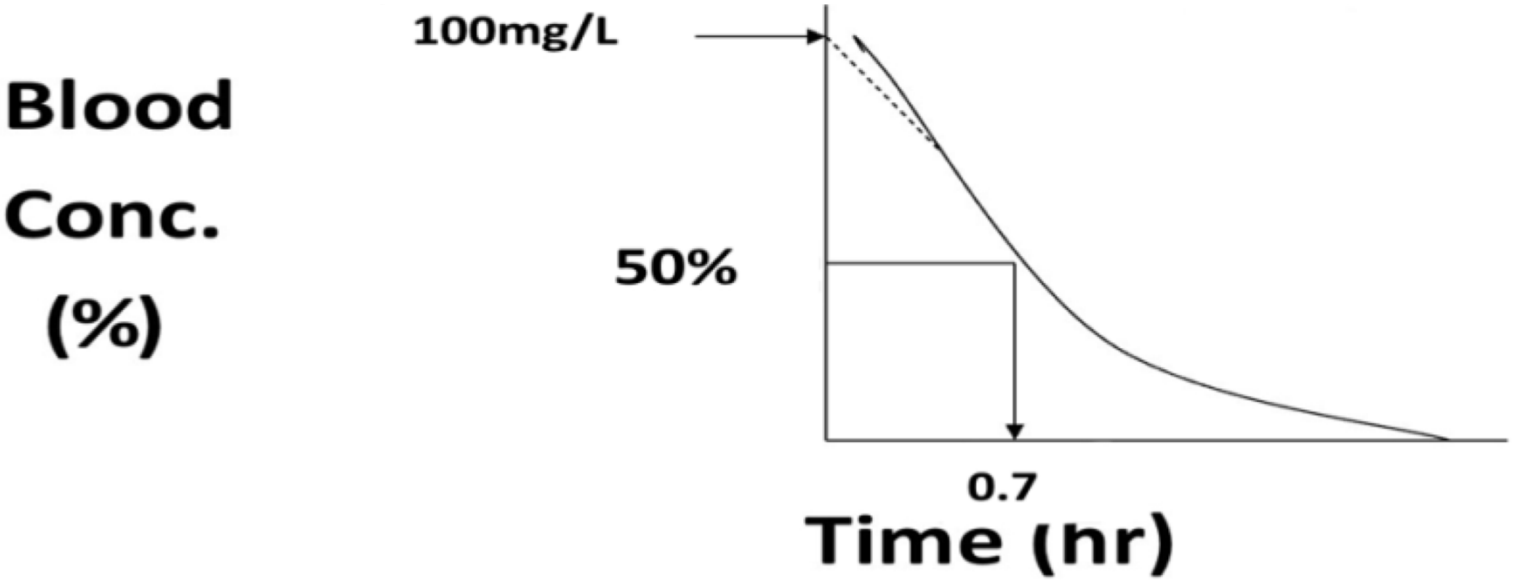
Ans :A

Apparent Volume of distribution = dose/Cp

(2023)

According to the previous graph, Calculate clearance:

A. 1 L/hr
B. B. 1 hr/L
C. C. 0.5 L/hr
D. D. 0.5 hr/L



Ans :A

Clearance = K*Vd

(2022)

If the clearance of a drug was 20 L/hours and the volume of distribution was 200 L find the Half-life of the drug:

A. 7 hours

B. 1.7 hours

C. 170 hours

D. 3.5 hours

Ans :A
Clearance = K*Vd
K=0.693/T half

(2022)

The clearance is :

A. The removal of an administered drug from the body.
B. The passage of the drug to the liver before entering the systemic circulation.
C. the volume of blood or plasma that is completely cleared of drug per unit time.
D. The amount of the drug that reach the systemic circulation.

Ans :C

(2022)

Drugs eliminated by a constant fraction are:

A. Zero order eliminated drugs
B. First order eliminated drugs
C. Oral administered drugs
D. IV administered drugs

Ans :B

(2022)

For a drug with a half – life equal to 24 hours how many days are required to reach 93.75of steady state concentration

A. Three days
B. four days
C. Two days
D. One day

Ans :B

(2022)

One of the following is incorrect about steady state condition:

A. Occurs when The rate of the drug administration is equal to the rate of the drug elimination
B. Has an a constant peak , trough and constant drug concentration
C. 50% of SS condition achieved by a single dose
D. SS condition achieved by a single dose

Ans :D

(2022)

Which of the following is CORRECT?

A. Value of t (1/2) depends on rate of absorption
B. Increase in Kd of drug with plasma protein is associated with increase in T (1/2)
C. T (1/2) value is required for dose estimation
D. Drugs associated with short T (1/2) are characterized by low systemic clearance

Ans :C

(2022)

If 87.5% of a drug is eliminated via first order kinetics in 15 hours. Half-life of this drug is expected to be;

A. 5 hours
B. 10 hours
C. 15 hours
D. 30 hour

Ans :A

(2020)

Half-life of drug doesn't depend on:

A. Biotransformation
B. Time of drug absorption
C. Concentration of a drug in plasma
D. Rate of drug elimination

Ans :B

(2020)

A drug with half-life of 12 hours is administered Intravenously. how long will it take for the drug to reach 90% of its final steady state

A. 90hrs
B. 40hrs
C. 30hrs
D. 24hrs

Ans :B

(2020)

Based on the relation between the degree of ionization and the solubility of a weak acid, the drug aspirin (pKa 3.49) will be most water soluble at

A. pH 1
B. pH 2
C. pH 3
D. pH 4
E. pH 6

Ans :E

A 65-year-old man suffering from osteoarthritis has been taking Naproxen 500mg twice a day for one month. For some reasons, the physician decided to try another drug that work on the as same receptor and prescribed him celecoxib that has 5 times more potent than naproxen. Which of the following was most likely the dose of celecoxib prescribed to the patient? (2020)

A. 10 mg
B. 100 mg
C. 50 mg
D. 1000 mg
E. 5 mg

Ans :E

(2020)

Drugs showing zero-order kinetics of elimination?

A. Are more common than those showing first order kinetics
B. Decrease in concentration exponentially with time
C. Amount of drug eliminated is independent of dose
D. Show constant fraction of the drug eliminated per unit time

Ans :C

(2020)

Which one of the following is true for a drug whose elimination from plasma shows first order kinetics?

A. Half-life is proportional to the drug concentration in plasma
B. The amount eliminated per unit of time is constant
C. A plot of drug concentration versus time is a straight line
D. The rate of elimination is proportional to the plasma concentration

Ans :D*

(2019)

Loading doses are employed:

A. To decrease the drugs toxicity
B. To increase drug efficacy
C. To increase drug potency
D. To increase the half live of the drug
E. To reach drug steady state more rapidly

Ans :E

(2019)

Some drugs exhibit zero order kinetics at high doses because

A. Because they have a long half life
B. Because they are toxic at high dose
C. Because they have short half life
D. They have an elimination site that is saturable
E. Because they bound to circulating proteins

Ans : D

(2019)

The number of half-lives required to move from one steady-state drug level to94% of another steady-state level is about

A. Three drug half-lives
B. Four drug half-lives
C. Five drug half-lived
D. Two drug half-lives
E. One drug half-life

Ans :B

(2021)

Which of the following is correct about renal clearance:

A. It is primarily relevant for drugs that undergo significant hepatic metabolism.
B. Especially useful for drugs that are primarily eliminated by the kidney
C. It has limited application in determining dosage adjustments for drugs with extensive protein binding.
D. It provides minimal insight into the pharmacokinetics of drugs eliminated via biliary excretion.

Ans :B

Not the exact exam choices

(2021)

Clearance is not related to:

A. Metabolism to metabolites
B. Excretion out of the body
C. Drug Bounding to proteins
D. Uptake by tissues
E. C+D

Ans :E

(2021)

The Half life of the drug helps indicating which of the following:

A. The bioavailability of the drug after oral administration
B. The potency of the drug at receptor sites
C. The frequency at which the drug should be administered (dosage frequency)
D. The route of elimination (renal vs. hepatic) of the drug

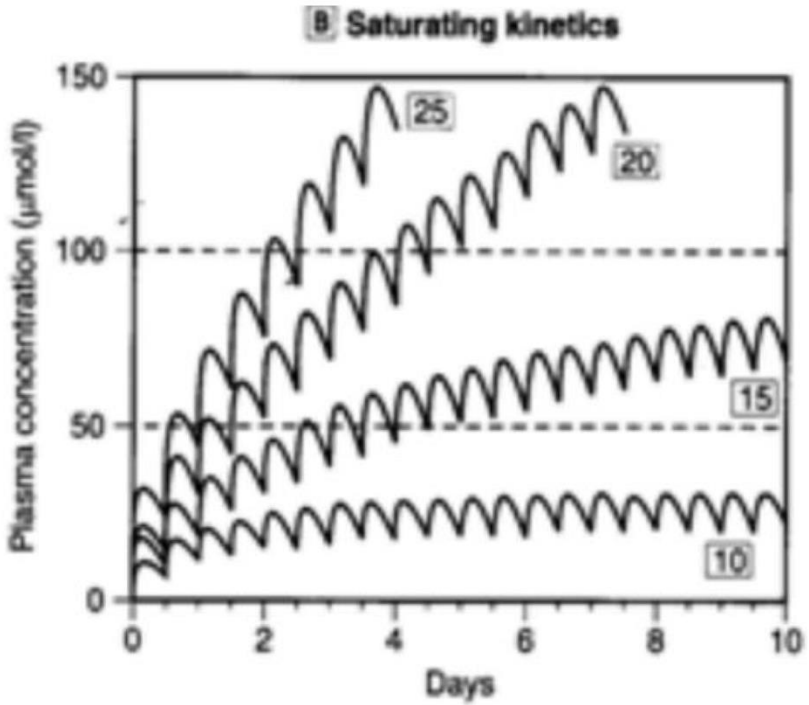
Ans :C

Not the exact exam choices

(2020)

Which of the following statements is wrong?

A. The plot represents a zero order kinetics elimination
B. We reach the steady state at high dose faster
C. The drug is eliminated as constant amounts
D. This drug plot can be Asprin's plot



Ans :B

Not the exact exam choices

This is not the same question from the exam but has the same idea.

Lippincott Question

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 be28.5 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

Ans :A

BRS Question

Administration of an IV loading dose to a patient of drug X yields an initial plasma concentration of 100 mcg/L. The table below illustrates the plasma concentration of X as a function of time after the initial loading dose:

Time (hours)	Plasma concentration (mcg/L)
0	100
1	50
5	25
9	12.5

What is the half-life (in hours) of drugs in hours?

A. 1

B. 2

C. 4

D. 5

E. 9

Inspection of the plasma concentration values indicates that the half-life of drug does not become constant until 1-9 hours after administration. The drug concentration decreases by 12 (from 50 to 25mcg/L) between 1 and 5 hours (a 4-hour interval) and again decreases by 12 (from 25 to 12.5 mcg/L)between 5 and 9 hours (again, a 4-hour interval). This indicates the half-life of the drug is 4 hours.The rapid decrease in plasma concentration between 0 and 1 hour, followed by a slower decrease there after (and the constant half-life thereafter) indicates that this drug obeys a two-compartment model with an initial distribution phase followed by an elimination phase. The half-life is always determined from the elimination phase data

Ans :C

Extra questions

Lecture 3

Extra question

Which principle is fundamental in pharmacology regarding drug concentration and its effects?

A) There is no direct relationship between drug concentration and effect

B) A drug's effect is only related to its dose, not its concentration

C) There is a direct relationship between drug concentration at the site of action and its beneficial or toxic effect

D) Therapeutic effect is independent of drug concentration

Ans :C

Extra question

Which formula correctly describes the relationship between bioavailability (F) and the extraction ratio (ER)?

A) $F = ER + 1$

B) $F = (f) - (1 + ER)$

C) $F = (f) . (1 - ER)$

D) $F = 1/ER$

Ans :C

Extra question

Active transport differs from facilitated transport in following ways, except:

A-Carrier is involved

B-It is against concentration gradient

C-Energy is required

D-All of the above

Ans :A

First pass metabolism:

A- Can increase the oral bio-availability of the drug

B-Occurs only in the liver

C-Is higher on intravenous administration

D-Necessitates high oral dose for certain drugs

Ans :D

Drug metabolism occurs chiefly in:

A- Liver

B- Brain

C- Spleen

D- Kidneys

Ans :A

Extra question

Bioavailability differences among oral formulations of a drug are most likely to occur if the drug:

A- Is freely water soluble
B-Is completely absorbed
C-Is incompletely absorbed
D-Undergoes little first-pass metabolism

Drugs that are **incompletely absorbed** are particularly sensitive to differences in the oral formulation. These differences in formulation can affect how much of the drug is available for absorption, leading to variations in bioavailability.

Ans :C

Extra question

Which of the following is initial step for drug absorption in case of tablet dosage form?

A-Friability

B-Disintegration

C-Dissolution

D-None of these

Ans :B

Extra question

Which of the following factors would most likely reduce the impact of first-pass hepatic metabolism on a drug's bioavailability

A-Oral administration of the drug

B-Drinking grapefruit juice

C-High lipid solubility of the drug

D-None of these

Ans :B

Extra question

The first-pass hepatic elimination significantly affects the bioavailability of a drug by:

a) Decreasing the amount of drug available to the systemic circulation

b) Increasing the amount of drug available to the systemic circulation

c) Directly enhancing the drug's therapeutic effect

d) Preventing the drug from being metabolized

Ans :A

Extra question

Drugs which undergo high degree of first-pass metabolism in liver:

A-Exhibit zero order kinetics of elimination

B-Have oral bioavailability

C-Are excreted primarily in bile

D-Are contraindicated in liver disease

Drugs with high first-pass metabolism are often contraindicated in liver disease because impaired liver function can lead to reduced drug metabolism. This can cause the drug to accumulate in the body, increasing the risk of toxicity.

Ans :D

Extra question

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

A- Side effect

B- Toxic effect

C-Allergic reaction

D-Adverse effect

Ans :D

For any feedback, scan the code or click on it.

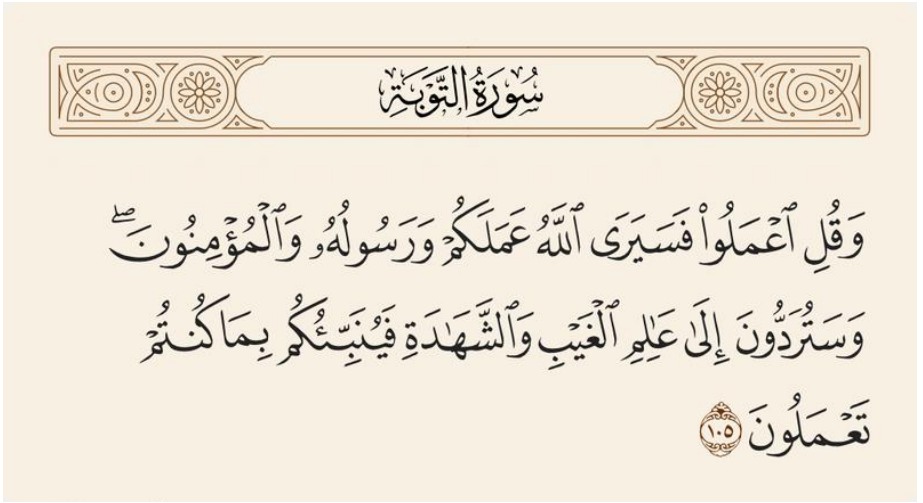
Corrections from previous versions:

Versions	Slide # and Place of Error	Before Correction	After Correction
V0 → V1			
V1 → V2			

Additional Resources:

رسالة من الفريق العلمي:

ممكن هل فترة متعبة ، والطاقة بلشت تنزل والهمة ضعفت ، لكن معظمنا ما بتمنى يكون باي مكان ثاني ، ولو كنا كان حنكون تعبانين مرتين ، مرة تعب التخصص ومرة تعبك لأنك بدك طب ، فشدوا حيلكم دكاترتنا وبالتوفيق ☺



إن رأيت مني خير فادعُ لوالدي
اللهم صلِ و سلم و بارك على سيدنا محمد