PharmPill team

اخواتي واخواني طلبة دفعة 426

هذة بعض النقاط التي لم اذكرها بشكل صحيح في المذكرات الثلاث الاولى التي موضوعها جنيرال فارماكولوجي

قد تكون صحيحة ولكن لتسهيل المعلومة وفهمها بشكل صحيح .. احببت ان اضيف هذه النقاط ..

ما كان من صواب فهو من الله .. وما كان من خطأ فهو منا ومن الشيطان

bioavailability = is the quantity of the drug (is the amount of the drug that is absorbed after administration by route X compared with the amount of drug that is absorbed after IV administration
X = is any route of drug administration other than IV

first pass = drug will lose some of its quantity

biotransformation (metabolism) :
the goal of the metabolism is to produce *metabolites* that are polar or charged and can be eliminated by the kidney.
so, lipid-soluble agent are metabolized by the liver using two general sets of reactions, phase I and phase II

►*phase I reactions* frequently involve the p450 system
►*phase II reactions* are conjugation, mostly with glucuronide.

phase I reaction :
converts lipophilic (nonpolar) molecules into more polar molecules by introducing or unmasking a polar functional group, such as and -OH or -NH_2
most of these reactions utilize the microsomal p450 enzyme

phase II reaction :
are conjugation reactions. these a glucouronic acid, sulfuric acid, acetic acid, or amine. acid with drug molecule to make it more polar. the highly polar drugs can be excreted by the kidney .

loading dose :
is a single large dose of a drug that is used to rise the plasma concentration to a therapeutic level more quickly than would occur through repeated smaller doses.

efficacy is the maximal response a drug can produce.
potency is a measure of the dose that is required to produce a response

let's take this example to differentiate between efficacy and potency :
one drug (drug A) produces complete eradication of premature ventricular contractions (PVCs) at a dose of 10 mg. A second drug (drug B) produce complete eradication of (PVCs) at a dose of 20 mg. therefore, both drugs have the same efficacy (complete eradication of PVCs), but drug A is more potent than drug B. it takes less of drug A to produce the same effect. A third drug (drug C) can reduce the PVCs by only 60%, and it takes a dose of 50 mg to achieve that effect. therefore, drug C has less efficacy and less potency in the reduction of PVCs compared with both drugs A and B.

agonist can be a drug or endogenous ligand for the receptor
increasing the concentration of agonist → will increase the biological response

antagonist block the action of the agonist or reverse it .

there are 2 pharmacological antagonist :
1- **reversible competitive antagonist :** make the agonist look less potent by shifting the dose curve to the right. note that if we increase the dose of agonist, agonist will win and take the place in the receptor (reversible)
2- **irreversible competitive antagonist :**
reduce the maximal response that agonist can produce.

Drug interaction can be
pharmacokinetic interaction → lead to ↑or ↓ the drug concentration thus increase or decrease its action.
pharmacodynamic interaction → - synergism (page 8 in the 3rd booklet)
- antagonism (the effect of one drug is decreased or abolished by the administration of another drug)
- type of antagonism :
  - chemical
  - physiological
  - pharmacological

  (u can find them in the 3rd booklet page 5)

goodluck all
Dr. noop