Dental Pharmacology	Quiz #1
January 12, 2004	

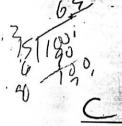


(Please Print

Select the single, most appropriate answer. (All questions of equal value)

- 1. A drug with apparent volume of distribution = 15 L is administered intravenously as a bolus dose of 100 mg. The initial plasma concentration (mg/L) attained is approximately
 - A. 0.15
 - B. 4.30
 - ©. 6.5 D. 100
 - E. 1500

Cp= X 1



- 2. The half-life of a rapidly absorbed drug is 2 hrs. The minimum time for its elimination from the body is approximately
 - A. 2 hrsB. 4 hrs
 - C.) 9 hrs
 - D. 20 hrs
 - E. 43 hrs



- 3. A drug administered by which route is most susceptible to first-pass metabolism?
 - A. Intravenous
 - B. Transdermal
 - C. Intramuscular
 - D. Sublingual
 - (E.) Oral

E

- 4. All of the following statements about the absorption and distribution of drugs are true **EXCEPT**:
 - A Weak acids are mostly absorbed from the stomach
 - B. Weak bases are mostly absorbed from the small intestine.

 The non-ionized portion of drug is more and like the state.
 - C. The non-ionized portion of drug is more readily absorbed than the ionized portion
 - D. Binding of a drug to plasma proteins reduces the rate of distribution
 - E. A lipid-soluble drug can cross the blood brain barrier

A

Dental Pharmacology Quiz #1 January 12, 2004

5. Which of the following statements about drug elimination is true?

A. All drugs are metabolized prior to excretion F

B. All drugs are inactivated by metabolic enzymes F

C A lipid-soluble, non-ionized drug is readily excreted in the urineF

Binding of a drug to plasma proteins reduces the rate of glomerular filtration 1. Free = \limits_1 \text{prod}

E. Only small molecular weight drugs (less than MW=100) are excreted in the bile

10N12

D

Warin

Dental Pharmacology	Quiz #1
January 10, 2005	

Name (Please Print)

Select the single, most appropriate answer. (All questions of equal value)

- A drug administered by which of the following routes of administration is most susceptible to first pass metabolism?
 - A. Inhalation
 - B. Intravenous
 - C Oral
 - D. Rectal
 - E. Sublingual
- All of the following statements are true about the absorption of a drug **EXCEPT**:
 - A. Weak acids are mostly absorbed from the stomach
 - 1 B. Weak bases are mostly absorbed from the small intestine
 - TC. Transdermal administration of a drug can lead to systemic effects
 - 1 D. Inhalation of a drug can produce central nervous system effects
 - 7 E. Increased lipid solubility leads to an increase in the rate of passive absorption
- 3. All of the following are true about drug elimination EXCEPT:

 - T B. Liver metabolism of a drug may produce active or inactive products
 - T C. A gaseous drug (such as nitrous oxide) may be excreted unchanged through the lungs
 - The ionized portion of a drug in the tubular filtrate of the nephron is more susceptible to reabsorption than the non-ionized portion
 - T E. Drugs may be eliminated in breast milk, causing effects in a nursing infant
- A. The protein that couples the \(\beta\)-adrenergic receptor to the stimulation of adenylyl cyclase is
 - A. G
 - B. Gs
 - C. Gq
 - D. G12
 - E. G13

B

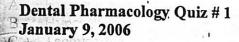
A drug has a half-life of 2 hours. When the drug is given intravenously, 95% of the drug will be eliminated from the plasma in which of the following time periods?

A. 1 hour B. 2 hours

C. 4.3 hours

D. 8.6 hours

E. 43 hours





Select the single, most appropriate answer. (All questions of equal value)

- Which of the following routes of administration is most susceptible to first-pass metabolism?
 - Inhalation "
 - Intravenous
 - Oral
 - Sublingual
 - Transdermal

- 2. All of the following statements about renal excretion of a drug are true EXCEP
 - Both free and bound drug in the plasma is excreted by glomerular filtrationX
 - Both free and bound drug in plasma is susceptible to tubular secretion
 - The lipid-soluble portion of a drug in the nephron is susceptible to passive C. reabsorption
 - A weak acid can inhibit the tubular secretion of another weak acid D.
 - E. Increasing the pH of the urine will increase the excretion of a weak acid

16+ + 1 excustion ...

- Aspirin is a weak acid with a pKa=3.5. What is the ratio of non-ionized/ionized 3. drug at a pH=4.5?
 - A. 100/1
 - 10/1
 - 1/1 1/10
 - 1/100

PKa = 3.5 PH = 4.5

A patient has been taking the same dose of a drug (Drug A) for the past 3 years to lower his blood pressure. This drug is a weak acid, is taken by mouth, is 90% bound to plasma proteins, is 50% metabolized to inactive products and 50% excreted unchanged by the kidney. The patient begins taking a second drug (Drug B) for an infection, and finds that his blood pressure is significantly elevated. The most likely explanation is that Drug B

Enhances the absorption of drug A from the small intestine A.

Displaces drug A from plasma proteins X

Induces cytochrome P450 enzymes in the liver - Nutab. drug A to & effects

Blocks the tubular secretion of drug A

Enhances the passive reabsorption of drug A

5. Which of the following receptors is a ligand-gated ion channel that allows calcium or sodium to enter cells? LGIC

Epidermal growth factor receptor × A.

B. $GABA_B$ receptor \times

C. β-adrenergic receptor

Muscarinic acetylcholine receptor Nicotinic acetylcholine receptor