

Clinical Pharmacology

1. Which one of the following statements is TRUE regarding the biotransformation of drugs:
 - a) Cigarette smoke and chronic alcohol consumption induce P450 enzymes
 - b) Phase I reactions increase the lipid solubility of drugs
 - c) Phenytoin (DilantinTM) is a potent P450 enzyme inhibitor
 - d) Phase II reactions decrease the water solubility of drugs
 - e) Biotransformation is increased in the elderly
2. Tamoxifen, a popular drug used in the treatment of estrogen receptor positive breast cancer, is metabolized through the Cytochrome P450 pathway (CYP2D6). Codeine, an opioid analgesic is also metabolized through the CYP2D6 pathway. Using knowledge of Genetic Polymorphisms, which of the following examples would predict clinical response in a patient who is a poor metabolizer at the CYP2D6 pathway?
 - a) Increased clinical effect of Tamoxifen and Codeine
 - b) Increased clinical effect of Tamoxifen, poor clinical effect of Codeine
 - c) Decreased clinical effect of Tamoxifen and Codeine
 - d) Decreased clinical effect of Tamoxifen, increased clinical effect of Codeine
3. Acetaminophen toxicity has a unique pathway involving biotransformation in the liver. Which of the following statements is FALSE regarding acetaminophen toxicity?
 - a) Chronic alcohol use increases risk of hepatocellular damage because of CYP2E1 induction which increase toxic metabolites (NAPQI)
 - b) N-acetylcysteine is the primary therapy used in treatment of patients with acetaminophen toxicity
 - c) Acute alcohol use increases risk of hepatocellular damage because it induces CYP2E1, thereby increasing build up for toxic metabolite (NAPQI)
 - d) Glutathione repletion is the most commonly used treatment in addressing Acetaminophen toxicity
4. Which of the following statement is FALSE with respect to pharmacodynamics?
 - a) Efficacy is a measure of the ability of a drug to elicit an effect at its receptor
 - b) Potency is a concentration of a drug needed to elicit a given effect
 - c) Agonists are drugs that bind to endogenous ligands and exert an effect
 - d) A partial agonist can be made into full agonist by increasing its concentration
 - e) Antagonists are drugs that have affinity for its receptor, but no efficacy

ANSWERS

1. A
2. C
3. C
4. D