Basic Pharmacologic Principles of Action

Objectives

- Understand the dose-effect relationship of drugs
- Define the pharmacokinetic terms and relationships of absorption, clearance, volume of distribution, and half life
- Discuss the pharmacodynamic variables of maximum effect and sensitivity
- Describe drug effects in terms of immediate, delayed and cumulative action
- Review factors such as drug accumulation, bioavailability, extraction ratio and first-pass effect as they relate to clinical drug effect
- Summarize how pregnancy affects pharmacokinetics
- Identify clinical pharmacokinetic changes for selected drugs used in pregnancy
- Explain special issues affecting pharmacokinetics relative to placental transfer of drugs and fetal drug exposure

Content Outline

1. Pharmacokinetics
   1.1 Absorption
   1.2 Volume of distribution
   1.3 Clearance
      1.3.1 Rate of elimination
      1.3.2 Extraction ratio
   1.4 Half life
      1.4.1 Drug accumulation
      1.4.2 Bioavailability

2. Pharmacodynamics
   2.1 Maximum response
   2.2 Sensitivity

3. Pharmacokinetics Changes in Pregnancy

4. Routes of Administration

5. Drug Effects
   5.1 Immediate effects
   5.2 Delayed effects
   5.3 Cumulative effects

6. Selected Drug Use in Pregnancy

7. Target Concentration

Reading Material Resources

Module WB1552: Basic Pharmacologic Principles of Action is based on the resources listed below. A copy of each resource is included with the module.
