

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Nurses and Physician Assistants, 2nd Edition

Unit 02: Basic Principles of Pharmacology

Case Study With Answers

The prescriber uses knowledge of pharmacokinetics, pharmacodynamics, and drug interactions to prescribe. This knowledge assists the prescriber in reducing adverse drug reactions and medication errors. For Mary, an 89-year-old, Asian female who weighs 110 pounds and is 65 inches tall, several key points must be considered when prescribing.

1. Identify the most concerning points for Mary's drug metabolism.
 - a. Potential for impaired renal and hepatic function due to age, body weight and composition, and female.
 - b. Body weight and composition, race, potential for tolerance.
 - c. First pass effect, body weight and composition, and race.
 - d. Female, body weight and composition, decreased therapeutic action.

ANS: A

Based on Mary's age she has a potential for impaired renal and hepatic function, her body weight and composition may impact her drug metabolism. Being female may impact her drug metabolism. (See Chapters 4 and 6.)

2. To reduce the risk of adverse drug reactions for Mary, the prescriber should
 - a. avoid medications with a boxed warning.
 - b. evaluate the risk versus benefit of specific medications with monitoring of complete blood count and complete metabolic panel for every visit.
 - c. provide patient education regarding potential adverse drug reactions with instructions for follow-up.
 - d. trust that Mary knows her own body and will know if anything changes.

ANS: C

The prescriber should provide Mary with patient education regarding potential adverse drug reactions with instructions for follow-up. (See Chapters 3 and 5.)

3. Which statement about race as a factor for medication prescribing is most accurate?
 - a. Race has not been helpful in determining individual drug responses.
 - b. Individual drug responses based on race are well defined.
 - c. Specific genetic testing based on a risk factor or specific genetic variation is not helpful in prescribing.

d. Genetic testing across ethnic groups has defined treatment for a variety of disease processes.

ANS: A

Race has not been helpful in determining individual drug responses. (See Chapter 6.)

4. Pharmacogenomics (*Select all that apply.*)

- a. has limited usefulness in prescribing to individuals.
- b. can offer the prescriber insight into expected responses to specific medications.
- c. does not identify paths of altered metabolism
- d. provides exact recommendations for drug therapy for prescribers.

Answers: B, D

Pharmacogenomics can offer the prescriber insight into expected responses to specific medication. The information can be useful in identifying paths of altered metabolism but doesn't provide exact recommendations for drug therapy. (See Chapter 7.)