Chapter 10  Drugs for Treating Colds and Allergies

Case Study
It seems that the university’s wrestling team benefited from the exceptionally long break the coach gave them over the Christmas holidays because they all seem eager to continue the remaining part of the season in earnest. However, Sam, the team’s 74-kg class wrestler, appears uncomfortable and less energetic. He reports that over break he contracted an upper respiratory tract infection. Sam started taking an over-the-counter (OTC) medication to relieve his runny nose when he first felt the onset of the cold. He states that it seems to be helping, but he is feeling more tired since starting the medication. What is a possible explanation for Sam’s symptoms?

Answer: The medication Sam is taking likely contains a first-generation antihistamine. These medications are found in several OTC cough, cold, and allergy products, both alone and in combination with other medications. They are helpful in colds because they decrease mucus production and have a drying effect, therefore relieving the symptom of runny nose. However, they also have a major adverse effect of causing drowsiness. This is likely the cause of Sam’s tiredness. The second-generation antihistamines are non-sedating; however, they also lack the drying effect of the first-generation antihistamines and therefore would not be as effective in treating Sam’s symptoms. Some of the first-generation antihistamines, such as chlorpheniramine, have less of a sedating effect, so switching products may help with the adverse effects.

Exam Questions
1. All of the following intranasal corticosteroid products are available by prescription only except for:
   a. Beclomethasone.
   b. Ciclesonide.
   c. Mometasone.
   d. Triamcinolone.

2. Which of the following agents is a second-generation antihistamine?
   a. Brompheniramine.
   b. Doxylamine.
   c. Loratadine.
   d. Promethazine.

3. An athlete is experiencing symptoms consistent with seasonal allergies. She wants to take an OTC medication to relieve her symptoms. She tells you that she is unsure of what to take because there are so many products available. Which of the following should be part of your discussion on antihistamines?
   a. A first-generation antihistamine would be the only option because second-generation agents are not available OTC.
   b. A first-generation agent would be preferred because they are more lipophilic and cross the blood-brain barrier.
   c. A second-generation agent would be preferred because they cause less sedation compared with first-generation agents.
   d. A second-generation agent would be preferred because they are more drying than a first-generation agent.
4. Nasal decongestants should be used for no more than ____ days to avoid the development of rebound congestion.
   a. 1 to 2.
   b. **3 to 5.**
   c. 7 to 10.
   d. 15 to 30.

5. An expectorant is a medication that:
   a. **Decreases the viscosity of lower respiratory tract secretions.**
   b. Suppresses the cough reflex.
   c. Induces the development of tolerance to allergens.
   d. Relieves nasal congestion.

6. A difference between the common cold and allergic rhinitis is:
   a. There is curative drug therapy for allergic rhinitis but not for the common cold.
   b. **The common cold is communicable but allergic rhinitis is not.**
   c. Runny nose is common with the cold but rare with allergic rhinitis.
   d. Histamine is the major mediator of cold symptoms but plays a minor role in allergic rhinitis.

7. A disadvantage of using the mast cell stabilizer cromolyn for allergic rhinitis is:
   a. It commonly causes sedation as an adverse effect.
   b. It can only be used for 3 to 5 days to avoid a recurrence of symptoms.
   c. It is available by prescription only.
   d. **It must be used between 3 and 6 times per day.**

8. The use of oral decongestants such as pseudoephedrine in certain patients is not recommended due to its potential to exacerbate other disease states. Patients with which condition should not use an oral decongestant?
   a. High cholesterol.
   b. **Uncontrolled hypertension.**
   c. Asthma.
   d. Peptic ulcer disease.

9. Montelukast treats seasonal allergy symptoms by:
   a. Inhibiting the production of prostaglandins.
   b. Blocking the histamine receptor.
   c. Suppressing the cough reflex.
   d. **Blocking the leukotriene receptor.**

10. In addition to its use as an antihistamine in treatment of allergy symptoms, diphenhydramine can also be used as a(n):
    a. Acid reducer.
    b. **Sleep aid.**
    c. Analgesic.
    d. Bronchodilator.