

Answers

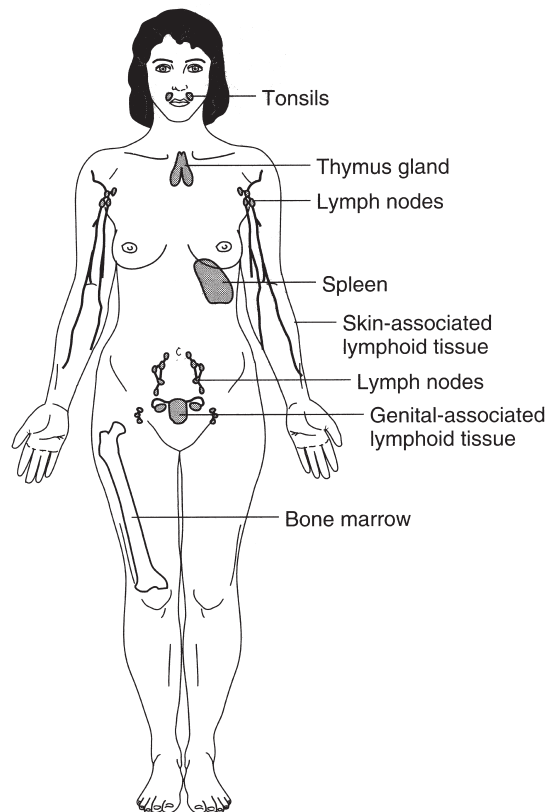
CHAPTER 18 IMMUNE SYSTEM FUNCTION, DATA COLLECTION, AND THERAPEUTIC MEASURES

AUDIO CASE STUDY

Scott and Anaphylaxis

1. Exposure to an allergen can occur by cross contamination of equipment used to process foods, then eating, inhaling, or touching it. Unlabeled food makes it harder to avoid allergens.
2. Wear or carry medical identification and carry an epinephrine auto-injector at all times.
3. Tingly all over, fatigued, shortness of breath, labored breathing, hives, and swelling.
4. Scott did not carry his epinephrine auto-injector at all times. He ate food with unknown ingredients. He did not call 911 immediately when he began to feel ill, and he walked home alone feeling ill. His brother did not call 911, instead picking him up and driving him to the hospital himself.
5. **S:** Scott, who has an allergy to nuts, including peanuts, ate food at a party tonight. Did not have his epinephrine auto-injector with him. Felt ill. Brought to emergency department by brother.
B: History of allergic reaction to nuts, including peanuts. Prescription for an epinephrine auto-injector.
A: Experiencing an anaphylactic reaction with tingling, fatigue, shortness of breath, labored breathing, hives, and swelling. Stable.
R: Monitor symptoms and provide supportive care.

STRUCTURES OF THE IMMUNE SYSTEM



VOCABULARY

Sample sentences will vary for the Vocabulary problems.

1. Antigens
2. Immunity
3. Natural killer cells, T cells, B cells
4. T cells (or T lymphocytes)
5. Immunoglobulins
6. Cell-mediated
7. Naturally acquired active
8. Immunosenescence
9. inflammation
10. neutrophils

IMMUNE SYSTEM CELLS

1. (4)
2. (7)
3. (5)
4. (2)
5. (3)
6. (1)
7. (6)

ANTIBODIES

1. IgA
2. IgG
3. IgD
4. IgE
5. IgG
6. IgA
7. IgM

IMMUNE SYSTEM

1. (7)
2. (9)
3. (5)
4. (1)
5. (2)
6. (8)
7. (3)
8. (6)
9. (10)
10. (4)

DATA COLLECTION—HISTORY

*Corrections are in **boldface**.*

Food, medication, and environmental allergies should include those that the patient experiences and those present in the family history. With a family history, a previous exposure to a substance **is not** required before a severe reaction occurs. Conditions such as allergic rhinitis, systemic lupus erythematosus, ankylosing spondylitis, and asthma are thought to be either familial or have a **genetic** predisposition. If the patient's thymus gland has been removed

(thymectomy), T-cell production may be altered. Corticosteroids and immunosuppressants **alter** the immune response.

CRITICAL THINKING AND CLINICAL JUDGMENT

1. Normal lymph nodes are not palpable. Nodes that are nontender, hard, fixed, and enlarged are frequently associated with cancer.
2. Demographic data (e.g., age, gender, race and ethnic background, place of birth, place of residence, occupation [past and present]), high-risk behaviors, patient history (e.g., allergies [drug, food, environmental]), surgeries, diagnosed medical conditions (past, present), and physical (e.g., general appearance, cardiovascular, skin, mucous membranes, respiratory, gastrointestinal, renal, musculoskeletal, nervous).
3. If cancer is suspected: recent weight loss, occupational exposures, any high-risk lifestyle behaviors such as smoking, sexual patterns, previous medical history, and family history.

REVIEW QUESTIONS

*The correct answers are in **boldface**.*

1. (3) is correct. One form of naturally acquired passive immunity includes placental transmission of antibodies from mother to fetus and transmission of antibodies in breast milk. (1, 2, 4) are incorrect.
2. (2) is correct. Influenza or flu shots are needed annually. (1, 3, 4) are not given annually.
3. (4, 5) are correct. A splenectomy or thymectomy may reduce immune function. (1, 2, 3, 6) do not impact immunity.
4. (3, 4) are correct. Painful, enlarged lymph nodes are associated with inflammation and infection. (1, 2, 5) are incorrect.
5. (4) is correct. Artificially acquired active immunity is provided by a vaccine. (1, 2, 3) are incorrect.
6. (2) is correct. An autoimmune disorder occurs when the body is unable to identify self from nonself. (1, 3, 4) are incorrect.
7. (4, 5) are correct. C-reactive protein and erythrocyte sedimentation rate test for inflammation. (1) IgM is an immunoglobulin. (2) CD4+ is indicative of immune function and is decreased in cancer, HIV, AIDS, or immunosuppression. (3) Western blot is used to detect HIV antigens.
8. (1) is correct. This mother has a naturally acquired active immunity to chickenpox and can safely care for the children without a mask or a booster vaccine. (2, 3, 4) are incorrect.
9. (1, 2, 4, 5, 6) are correct. Cold virus, plant pollen, bacterial toxins, or vaccines can all stimulate the formation of antibodies. (3) Transplanted organs stimulate cell-mediated immunity, which does not involve the production of antibodies.

10. (3) is correct. A biopsy requires that the patient sign an informed consent. (1) Contrast is not used in a biopsy (2, 4) are data to collect for a patient with known allergies.
11. (3) is correct. Systemic lupus erythematosus, an autoimmune disorder, tends to affect women more than men. In addition, Latina, American Indian, Asian, and

Black women are afflicted with systemic lupus erythematosus more often than White women.

12. (2) is correct. An antigen/antibody combination immunoassay will be done first. (1, 3, 4) are incorrect.

13. (8)

$$\frac{200 \text{ mg}}{125 \text{ mg}} \left| \frac{5 \text{ mL}}{125 \text{ mg}} \right. = 8 \text{ mL}$$