Programmed Instruction: Cancer Care

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IMMUNOLOGY

The sections of the Programmed Instruction, immunology, appearing in Volume 3, issues 1–5 of Cancer Nursing present information about immunity, immunotherapy, and bone marrow transplantation. This is a final test of your ability to meet the learning objectives listed for each section.

I. TRUE OR FALSE

Directions: Circle T if the statement is true and F if it is false. If the statement is false, write a substitute for the underlined word which will make it true.

1. Innate immunity is an individual's second line of defense against potentially harmful invaders. ________________ T F

2. Acquired immunity involves phagocytes which are capable of recognizing specific antigens. ________________ T F

3. Cellular immunity and humoral immunity are forms of acquired immunity. ________________ T F

4. Cellular immunity is mediated by B-lymphocytes. ________________ T F

5. Cellular immunity provides primary defense against cancer cells. ________________ T F

6. B-lymphocytes are responsible for the production of antibodies. ________________ T F

7. Immunity to measles may be actively acquired as the result of measles immunization. ________________ T F

8. Actively acquired immunity may be transferred from an immune individual via immune serum. ________________ T F

9. Antigens which are present on several different types of cancer cells are called tumor-specific antigens. ________________ T F

10. T-lymphocytes are capable of destroying tumor cells directly on contact. ________________ T F

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11. B-lymphocytes induce the production of antitumor lymphokines.  
T  F  

12. One finding that supports the theory that there is a relationship between immunity and cancer is that there is an increased incidence of cancer among individuals who are immunocompetent.  
T  F  

II. Classification  

Directions: There are four types of immunotherapy. In the space to the left of each agent classify its type using S for active specific, N for active nonspecific, P for passive, and A for adoptive.  

1. _____ BCG  
2. _____ Pseudomonas vaccine  
3. _____ transfer factor  
4. _____ Levamisole  
5. _____ immune serum  
6. _____ mixed tumor cell vaccine  

III. Multiple Choice  

Directions: Circle the correct letter(s).  

1. Which of the following phrases describes the role of immunotherapy in the treatment of cancer?  
   a) Most often incorporated into the treatment plan as an adjunct.  
   b) May be helpful in eliminating the bulk of a tumor.  
   c) May be employed to potentiate overall immunity.  
   d) Should be timed to coincide with immunosuppression.  

2. The nurse’s role in assessing the immune response in individuals receiving immunotherapy involves:  
   a) administering five commonly encountered antigens intradermally  
   b) evaluating an individual’s ability to generate a specific cellular immune response  
   c) analyzing the humoral immune response following exposure to known antigens  
   d) observing for an undesirable reaction characterized by erythema and induration  

3. Nursing implications related to the administration of BCG might include:  
   a) administering BCG via the tine technique  
   b) assessing old and new treatment sites for inflammation, pustules, weeping patches  
   c) alleviating or minimizing discomfort from "flu-like" symptoms  
   d) teaching patients to monitor their blood pressure daily  

4. A local reaction resulting from subcutaneous administration of Thymosin may be characterized by:  
   a) ecchymosis  
   b) erythema and induration  
   c) cyanosis  
   d) pruritus
5. A systemic reaction resulting from intravenous administration of poly-ICLC may be characterized by:
   a) regional lymph node enlargement
   b) hypotension
   c) shaking chills
   d) malaise

6. Adverse reactions associated with administration of Pseudomonas vaccine include:
   a) anaphylaxis
   b) local reactions
   c) renal failure
   d) bone marrow depression

7. Oral administration of Levamisole may result in:
   a) nausea and vomiting
   b) constipation
   c) stomatitis
   d) diarrhea

8. MER may cause all of the following adverse reactions except:
   a) TB infection
   b) hepatic dysfunction
   c) hematuria
   d) mucositis

9. Patients are instructed to report signs of infection or bleeding after receiving:
   a) mixed bacteria vaccine
   b) BCG
   c) Novaprexal
   d) Interferon

10. Which of the following is a characteristic of a suitable bone marrow donor:
    a) usually a parent
    b) an HLA-matched sibling
    c) must have an identical tissue type
    d) stimulates immune reactivity in the MLC

11. Which of the following statements describing the bone marrow transplant procedure is true?
    a) The agent used most often to destroy marrow function prior to the transplant is intrathecal methotrexate.
    b) Total body irradiation is administered as immunosuppressant therapy.
    c) Marrow obtained from the donor’s iliac crests is infused into the recipient’s peripheral blood.
    d) The procedure is complicated and dangerous for the donor.
12. Which of the following statements describing the management of complications related to bone marrow transplantation is true?

a) The effectiveness of preventing infections by instituting isolation is proven.

b) Stomatitis can be prevented by instituting mycostatin mouth rinses.

c) Interstitial pneumonia often progresses rapidly and is fatal before treatment can be effective.

d) Suppression of T-lymphocyte activity is the goal of treatment for GVHD.