Hypersensitivity Reactions to Cancer Chemotherapy: Practical Recommendations of ARADyAL for Diagnosis and Desensitization

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CME Items

1. Which of the following statements regarding the diagnosis of hypersensitivity reactions to chemotherapeutic drugs is correct?
   a. Skin tests should be the first step in diagnosis and can be used to guide the method of re-exposure
   b. Patch tests are not effective in the diagnosis of nonimmediate reactions
   c. The drug provocation test is the gold standard for confirming or ruling out hypersensitivity reactions
   d. All of the above are correct

2. Which of the following cytokines is proposed as a biomarker of cytokine release reactions?
   a. IL-10
   b. IL-5
   c. IL-6
   d. None of the above

3. Which of the following is true for patients with nonimmediate hypersensitivity reaction?
   a. They never be desensitized.
   b. They can be desensitized only if there is no liver or kidney involvement.
   c. They can be desensitized only if 1 organ is involved, usually the skin.
   d. They should be desensitized if there is mucosal involvement.

4. Which of the following is correct?
   a. In rapid drug desensitization mast cells become unresponsive to the drug (antigen) when starting at a normal concentration (1/1).
   b. In murine models, rapid drug desensitization is achieved by increasing the dose 1.5- to 2.5-fold at each step and at fixed time intervals.
   c. Desensitization does not impair the internalization of the antigen/IgE/FcεRI complexes but increases some signal-transducing molecules, such as Syk.
   d. Rapid drug desensitization is antigen-nonspecific, meaning that the activating signal transduction pathways are locked for any allergen.

5. Which of the following is not the role of an allergist in a desensitization program?
   a. Being responsible for the allergological study.
   b. Prescribing the oncological treatment and doses.
   c. Supervising the desensitization procedure.
   d. Assessing the risk stratification and desensitization steps.

6. Which one of the following answers is false?
   a. The incidence of hypersensitivity reactions to platins is directly related to the number of exposures.
   b. Reactions to taxanes occur mainly during the first cycle.
   c. A change in monoclonal antibody reactions from phenotype I to cytokine release reaction may occur during desensitization.
   d. Fully human monoclonal antibodies cannot elicit an immune response.

7. Which of the 4 phenotypes best describes the following reaction?
   “Patient in the fourth cycle of carboplatin treatment who, a few minutes after starting the drug, develops a reaction with flushing, dyspnea, tachycardia, nausea, weakness, and diaphoresis.”
   a. Phenotype 1
   b. Cytokine release reaction
   c. Mixed
   d. Indeterminate

8. Type I reactions encompass mast cell/basophil activation that will lead to the release of mediators through the activation of various receptors including the low affinity receptor for IgG (FcγRIIA). Which of the following apply?
   a. True
   b. Only if the causative drug is a monoclonal antibody.
   c. False
   d. a and b are correct.

9. Which of the following best describes breakthrough reactions during rapid drug desensitization (3 bag/12 step)?
   a. Infrequent, mostly mild, and generally occur during the last steps (7-12)
   b. Infrequent, as severe as the original reaction and generally occur during the first steps of the last bag.
   c. Frequent, mostly mild, and associated with a positive skin test result with the chemotherapeutic or monoclonal antibody.
   d. Infrequent, mostly grade 3, and occur during the first bag.

10. Which of the following is correct with respect to premedication in rapid drug desensitization?
    a. There is strong evidence of its effect for reducing the risk of breakthrough reactions.
    b. Antihistamines (H1 and H2) are frequently used in the schedules.
    c. Fluids and normal saline have not demonstrated any effect in cytokine release reactions.
    d. Corticosteroids are the most effective drugs in the case of flushing or respiratory symptoms.