

# Hypersensitivity Reactions to Biological Drugs

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## CME Items

- Which of the following statements is not true?
  - Omalizumab is a humanized monoclonal antibody
  - Hypersensitivity reactions to natalizumab are induced by a drug metabolite
  - Hypersensitivity reactions to rituximab can occur with the first administration of the drug
  - Anticetuximab IgE antibodies act against  $\alpha$ -gal antigen
- In the study of hypersensitivity reactions to biological drugs, which of the following is important to know?
  - The degree of drug humanization
  - The excipients contained in the marketed drug
  - The cell line from which the drug is obtained
  - All of the above
- With respect to biological drugs, which of the following is true?
  - The percentage of patients with acneiform rash induced by cetuximab is less than 10%
  - In humanized monoclonal antibodies, 2-5% of the immunoglobulin Fab fragment is from mice
  - Injection site reactions usually appear immediately after drug administration
  - Hypersensitivity reactions are classified as alpha-type reactions
- Which one of the following statements is true?
  - The name of the fusion proteins end in -cept
  - In the study of hypersensitivity to omalizumab, intradermal testing should be performed at a maximum concentration of 1/10
  - Desensitization is not effective for rituximab
  - Injection site reactions produced by infliximab are frequent
- Which of the following applies to non-isotype-specific anti-infliximab antibodies?
  - They are very specific for anaphylactic reactions to infliximab
  - There is a close correlation between the levels of these antibodies and the incidence of reactions, especially mild to moderate reactions.
  - An antibody titer  $\geq 8$   $\mu\text{g/mL}$  predicts an increased risk of reaction
  - b and c are correct
- Which of the following is true for allergic reactions to adalimumab?
  - They are rare
  - They are usually delayed reactions
  - They are commonly mild and occur at the injection site in up to 20% of patients
  - They are a frequent cause of discontinuation of treatment
- Which of the following is true of etanercept?
  - It is a monoclonal anti-TNF antibody
  - It induces antinuclear antibodies in 18% of patients
  - Injection site reactions are reported in 97% of patients with psoriasis treated with this drug
  - All are correct
- Interferons constitute a group of related proteins classified according to the source from which they were originally obtained. Which of the following belong to the group?
  - Interferon alfa, formerly leukocyte interferon
  - Interferon beta, formerly fibroblast interferon
  - Interferon gamma, formerly immune interferon
  - They all belong to the group
- Which of the following statements is true for skin reactions with interleukin-2 or interferons?
  - Local reactions at the interleukin-2 injection site are observed in 50% to 60% of cases
  - Erythematous reactions appear in up to 75% of patients treated with interferon beta
  - Painful erythematous plaques are more common with interferon beta-1b than with interferon beta-1a
  - Answers b and c are correct
- As regards hypersensitivity reactions to colony-stimulating factors, which of the following statements is correct?
  - Cross-reactivity between these drugs is low
  - Desensitization methods are frequently used when these reactions occur
  - Twenty-five percent of patients treated with filgrastim present hypersensitivity reactions
  - Pegfilgrastim is the colony-stimulating factor most frequently involved in hypersensitivity reactions