

ASK A PHARMACIST

Infusion reactions and immunotherapy for prostate cancer

Can a patient who has had an allergic reaction to rituximab (Rituxan) ever be treated with it again?

— Barbara B. Rogers, CRNP, MN, AOCN, ANP-BC, Philadelphia, PA

Rituximab is a chimeric, monoclonal antibody approved for use in CD20-positive non-Hodgkin's lymphoma and chronic lymphocytic leukemia. The incidence of infusion reactions with rituximab is up to 77% with the first infusion; 10% of these reactions are grades 3 to 4. While the risk of infusion reactions is less with subsequent infusions, the risk is still significant, and patients should be monitored during and after all infusions.

There are no clear-cut guidelines on when it is safe to rechallenge a patient who has had an infusion reaction to rituximab. Whether to rechallenge depends on multiple factors, including reaction severity, goals of therapy, and patient or prescriber preference. Patients experiencing mild to moderate reactions (grades 1-2) may tolerate readministration. If readministration is attempted, the infusion rate should be reduced by half (eg, from 100 mg/hour to 50 mg/hour). The patient should also be premedicated with antihistamines, corticosteroids, and acetaminophen. Patients experiencing severe infusion reactions (grades 3-4) are typically not rechallenged.

Not all infusion reactions are true allergic responses. Unlike anaphylactoid reactions, a true medication allergy is mediated by IgE antibodies. Symptoms of allergic and anaphylactoid reactions can be very similar, however. A true allergic response occurs later in therapy, as the IgE antibodies are produced in response to drug exposure. An anaphylactoid response can occur at any point in therapy.

Regardless of whether an infusion reaction is anaphylactoid or allergic in nature, acute management is similar. The infusion should be halted; and supportive care, including antihistamines, corticosteroids, bronchodilators, and epinephrine, should be administered until symptom resolution. Management of infusion reactions is described in detail elsewhere.^{1,2}

Can you comment on some of the practical issues involved in administering the new prostate cancer treatment sipuleucel-T (Provenge)?

Sipuleucel-T is an autologous cellular immunotherapy indicated for the treatment of asymptomatic or minimally symptomatic, metastatic, hormone-refractory prostate cancer. The patient's antigen-presenting cells are collected before each dose via leukapheresis and activated with prostatic acid phosphatase (PAP, a protein expressed in prostate cancers) and granulocyte-macrophage colony stimulating factor. When administered, the activated product is

thought to trigger an immune response against the PAP expressed in prostate cancer cells.

Because sipuleucel-T is an autologous product, confirmation that the patient's identity matches the identifiers on the infusion bag is essential. Patients should receive only the product created from their own cells. Patients who miss a dose will have to undergo additional leukapheresis to complete the course of therapy. Doses are infused over 60 minutes every 2 weeks for three doses. A cell filter should not be used when infusing sipuleucel-T. Because this product is created from a blood source, it should be handled according to universal precautions.

Premedications should include acetaminophen and an antihistamine to minimize the risk of infusion reactions. In clinical trials, 71% of patients receiving sipuleucel-T experienced an infusion reaction. The most frequent effects were chills, fever, and fatigue. If an infusion reaction occurs, the infusion should be slowed or stopped and appropriate therapy initiated, including acetaminophen, antihistamines, and meperidine as indicated. ■

REFERENCES

1. Lenz HJ. Management and preparedness for infusion and hypersensitivity reactions. *Oncologist*. 2007;12(5):601-609.
2. Vogel WH. Infusion reactions: diagnosis, assessment, and management. *Clin J Oncol Nurs*. 2010;14(2):E10-E21.



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