Management of Immunotherapy Infusion Reactions

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Indications for the use of immunotherapy in oncology are increasing rapidly. Each classification of immunotherapy has its own unique characteristics. Understanding the mechanism of action and the potential for infusion reactions will help advanced practice providers (APPs) to prepare patients and clinical staff for expected outcomes. Timely identification, grading, and documentation of each infusion reaction can decrease cost and patient length of stay and improve patient outcomes. The National Cancer Institute's Common Terminology Criteria for Adverse Events provides grading criteria guidelines for APPs to rechallenge patients.

AT A GLANCE

- Accurate identification and grading of infusion reactions help APPs to decide future treatment decisions and improve patient outcomes.
- Understanding the classifications of immunotherapy, its mechanisms of action, and the likelihood of infusion reactions allows APPs to prepare patients and staff for a potential reaction.
- The impact of infusion reactions can affect cost, time, patient outcomes, and treatment decisions.

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When infusing anticancer therapy, there is a risk of patients experiencing an adverse reaction. The challenge for advanced practice providers (APPs) is to determine the type of reaction and whether it is safe to continue with or discontinue the infusion. During the past decade, indications for immunotherapy as a single agent or in conjunction with chemotherapy have increased. This has been further complicated by the introduction of subcutaneous routes of immunotherapy administration (Rombouts et al., 2020). APPs can educate patients and staff about the potential for an infusion-related reaction. All clinical staff can be trained on managing acute adverse events and following the safety measures in place (Cáceres et al., 2019).

Classifying and Grading Infusion Reactions

The body's immune system is designed to protect against pathogens and can have an exaggerated response when triggered by an antigen. These reactions can be classified into four types according to the Gell and Coombs classification (see Table 1). The Gell and Coombs classification has merit, but it does not fully encompass the complexity of oncology infusion reactions. Although it is a helpful diagnostic tool, it does not grade the reaction or provide information regarding treatment and/or the ability to rechallenge the patient with the medication. In addition, standardized terminology regarding reactions to cancer therapy in clinical trials and package inserts and among providers is lacking. Terminology for describing infusion reactions is often interchangeable and can be confusing.

Common types of infusion reactions are hypersensitivity reactions, anaphylactoid reactions, standard infusion reactions, and allergic reactions. Descriptions and grading of reactions can be subjective and may vary from provider to provider. Because many of the symptoms can mimic one another, a hypersensitivity reaction can easily look like an anaphylactic reaction (Pichler, 2019). Understanding the medications and the typical reactions for each drug can help APPs to discern how to accurately grade and treat the reaction. The Common Terminology Criteria for Adverse Events (CTCAE) grading scale defines the severity of reactions (National Cancer Institute Cancer Therapy Evaluation Program, 2017) (see Table 2).

Appropriate identification of the type and grade of reactions guides APPs in determining the best management approach during and after the reaction. According to the CTCAE, a grade 1 or 2 reaction is a mild reaction that may