

Introduction

Infusion Reactions Associated With Monoclonal Antibodies in Patients With Solid Tumors

Guest Editors

ANTHONY J. CMELAK, MD

Associate Professor
Radiation Oncology
Vanderbilt-Ingram Cancer Center
Nashville, Tennessee
Medical Director
Vanderbilt-Ingram Cancer Center at Franklin
Franklin, Tennessee

RICHARD M. GOLDBERG, MD

Director of Oncology Services
Associate Director, UNC Lineberger Comprehensive Cancer Center
Distinguished Professor
Chief of the Division of Hematology and Oncology
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Infusion reactions are a well-known phenomenon in cancer treatment, occurring with both cytotoxic and biologic agents. The severity, symptomatology, and time course of these hypersensitivity events differ significantly among agents, ranging from simple cutaneous manifestations and urticaria to life-threatening hypotension, bronchospasm, and vascular collapse. They can occur despite adequate preparation and premedication. Medical oncologists and nurses have become accustomed to quickly recognizing manifestations of infusion reactions and intervening promptly to circumvent catastrophic sequelae and because the safety and efficacy of cancer therapy depend heavily on reliable and consistent drug delivery.

The development and increasing use of recombinant monoclonal antibodies in the medical treatment of asthma, inflammatory bowel disease, and rheumatoid arthritis have translated into significant improvements in outcomes for patients—particularly those with cancer. As medical oncologists have integrated these targeted agents into treatment regimens, they and their staff have had to quickly become familiar with the identification and management of each agent's unique constellation of potential side effects.

The articles presented in this supplement to *ONCOLOGY* were conceived as a carefully integrated series of topics related to antibody-induced infusion reactions in the treatment of solid tumors. We hope to give clinicians a comprehensive background to recognize the mechanisms, signs, and treatment of these events in their patients.

Drs. Gleich and Leiferman provide a comprehensive historical review of the mechanisms, signs, and symptoms of hypersensitivity with a strong emphasis on anaphylaxis,

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illustrating how the measurement of biologic mediators can aid in diagnosis. Drs. Chung and O'Neil illustrate the immunologic mechanisms and risk factors for infusion reactions in cancer patients with solid tumors, with emphasis on the unique phenomenon of high-risk populations for infusion-related events to cetuximab (Erbix) within the southeastern United States. Anecdotal observations from clinicians have led to intriguing population-based studies on atopic patients, culminating to immunologic research showing that preformed immunoglobulin-E targeting a specific galactose- α -1,3-galactose on the chimeric IgG molecule predisposes patients to these reactions.

Dr. Cmelak and colleagues present both the US and European perspectives of how the clinical manifestations, grading, and management of reactions are influencing the development of cancer clinical trials. Pamela Viale gives a comprehensive clinical review of infusion reactions, with an emphasis on the practical aspects that oncology nurses must recognize and face on an everyday basis. And lastly, Dr. Fortner and Ms. Viale provide a more personalized view of the burden that infusion reactions have on patients, their caregivers, and clinical staff, highlighting the financial and psychological costs assumed by each of these groups.

Newer information is emerging daily that will allow researchers to learn more about how infusion reactions occur, how to better treat them, and ultimately, how to circumvent them. Novel targets and targeting agents based on this research will allow the cancer physician to ultimately treat with greater efficacy and less toxicity.

—Anthony J. Cmelak, MD

—Richard M. Goldberg, MD

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