



Nursing Care of Patients Undergoing Chemotherapy Desensitization: Part I

Patricia Jakel, RN, MN, AOCN®, Cynthia Carsten, RN, BSN, OCN®, Melinda Braskett, MD, and Arvie Carino, RN, BSN, OCN®

Hypersensitivity reactions to chemotherapeutic agents can cause the discontinuation of first-line therapies. Chemotherapy desensitization is a safe, but labor-intensive, process to administer these important medications. A desensitization protocol can enable a patient to receive the entire target dose of a medication, even if the patient has a history of severe infusion reactions. In this article, the authors explain the pathophysiology of hypersensitivity reactions and describe the recent development of desensitization protocols in oncology. In part II of this article, which will appear in the April 2016 issue of the *Clinical Journal of Oncology Nursing*, the authors will give a detailed account of how a desensitization protocol is performed at an academic medical center.

At a Glance

- Chemotherapeutic and biotherapeutic drugs can cause severe, life-threatening hypersensitivity reactions; these reactions are most frequently associated with platinum agents, taxanes, and monoclonal antibodies, but all classes of chemotherapy and biotherapy require vigilance.
- Oncology nurses must be familiar with the signs and symptoms of hypersensitivity reactions and know how to respond to such reactions.
- Studies have demonstrated that complex desensitization protocols designed by allergists can allow patients to receive chemotherapeutic and biotherapeutic drugs, even if they initially experienced a severe hypersensitivity reaction.

Patricia Jakel, RN, MN, AOCN®, is an oncology clinical nurse specialist for the solid tumor program in the Santa Monica Medical Center and an associate professor in the School of Nursing; Cynthia Carsten, RN, BSN, OCN®, is a clinical nurse II on the solid tumor unit in the Santa Monica Medical Center; Melinda Braskett, MD, is an assistant clinical professor of clinical immunology and allergy at the David Geffen School of Medicine; and Arvie Carino, RN, BSN, OCN®, is an administrative nurse I on the solid tumor unit in the Santa Monica Medical Center, all at the University of California, Los Angeles. The authors take full responsibility for the content of the article. The authors did not receive honoraria for this work. No financial relationships relevant to the content of this article have been disclosed by the authors or editorial staff. Description of products does not indicate or imply endorsement by the *Clinical Journal of Oncology Nursing* or the Oncology Nursing Society. Jakel can be reached at pjakel@mednet.ucla.edu, with copy to editor at CJONEditor@ons.org.

Key words: chemotherapy desensitization; rapid drug desensitization; hypersensitivity reactions; adverse drug reactions; infusion reactions

Digital Object Identifier: 10.1188/16.CJON.29-32

Chemotherapy desensitization is a procedure that enables a patient to receive a treatment that he or she is allergic to and otherwise would be unable to tolerate. With close supervision, using intricate protocols designed by allergists and oncologists, desensitization

can be performed safely. These protocols provide a regimen for incrementally increasing the dose of a medication until the full target dose is reached. This article describes hypersensitivity reactions and reviews the literature regarding chemotherapy desensitization. In part II of this

article, the authors will provide a practical guide for the nursing care of patients undergoing chemotherapy desensitization based on the existing literature as well their own experience at the University of California, Los Angeles (UCLA).

Infusion Reactions

Infusion reaction is a term used to describe adverse reactions that occur during or immediately after administration of the medication. Infusion reactions may be allergic or a nonallergic irritant effect. In general, most infusion reactions are mild in severity (grade 1 or 2) and usually represent irritant effects of the medication. In many cases, these are anticipated, such as during the first infusion of taxanes or monoclonal antibodies. Most infusion reactions can be managed with temporary interruption of the therapy and symptom management with steroids, antihistamines, antiemetics, and possibly anxiolytics. Generally, the infusion is completed without progression to a severe reaction, albeit at a slower rate and with greater reliance on supportive medications (Vogel, 2010).

Hypersensitivity Reactions

Hypersensitivity reactions are a subgroup of adverse drug reactions that are unexpected and characterized by objectively reproducible signs and symptoms at doses that are normally tolerated. Immediate hypersensitivity reactions appear within one hour of the infusion. The symptoms of an immediate hypersensitivity reaction can include urticaria, rhinitis, angioedema, bronchospasm, or anaphylactic shock. Delayed hypersensitivity reactions can occur anytime thereafter;