DIAGNOSIS AND MANAGEMENT OF CHEMOTHERAPY-INDUCED HYPERSENSIVITY REACTIONS

By Melinda Braskett, MD, and Melissa Cohen, MD

CASE

A 51-year-old woman with relapsed epithelial ovarian cancer presents to the clinic for cycle 7 of carboplatin/docetaxel. Approximately 20 minutes into the carboplatin infusion, her palms feel warm and she develops flushing and pruritus. The infusion is stopped, and the nurse administers 25 mg of diphenhydramine just as the patient begins coughing and reports that her chest feels tight. Vital signs reflect an increase in heart rate of 15 beats/minute, and blood pressure and oxygen saturation are normal. After 5 minutes, her cough and chest tightness resolve but she remains flushed and swollen.

Infusion reactions are common with all cancer therapies, but when is it time to change the treatment plan?

Hospitalists play a key role in the care of oncology patients. In addition to managing complications of cancer, hospitalists are often the supervising physicians during inpatient chemotherapy. Given the frequency of adverse drug effects, the ability to recognize and treat infusion reactions rapidly is important. The decision to discontinue current therapy or rechallenge a patient after a reaction depends on many clinical factors, including severity of reaction and efficacy of alternative therapies. Until recently, hypersensitivity reactions (HSRs) prevented patients from receiving first-line therapies, but rapid desensitization protocols have been proven effective. With close physician supervision, these high-risk procedures can be done safely.

Adverse reactions to chemotherapeutic agents may involve any organ system in the body and can range from mild to anaphylactic.

Adverse reactions to chemotherapeutic agents may involve any organ system in the body and can range from mild to anaphylactic. Symptoms may include flushing, increased heart rate, alterations in blood pressure, dyspnea, chest tightness, back pain, fever, itching, nausea, and rash. Although the incidence of severe reactions is less than 5%, deaths have been reported (1, 2). Thus, prompt assessment and astute management are required. Understanding the underlying pathophysiology and terminology used to describe these reactions can help hospitalists intervene appropriately and make an important difference in patient outcomes.

“Infusion reaction” is a term used to describe adverse reactions that occur during or immediately after administration of a medication. In general, most reactions are mild to moderate in severity and may represent irritant effects. In many cases, these are anticipated and can be managed with temporary interruption of the infusion and symptom management with steroids, antihistamines, antiemetics, and possibly anxiolytics. Generally, the infusion is completed without progression to a severe reaction, albeit at slower rate and with greater reliance on supportive medications. Such reactions are common during