Drug Reactions and Desensitization to Chemotherapeutic Agents: An Overview and Case Study

Maura Price, MSN, RN, AOCNS

Certain chemotherapy agents have an increased potential to cause allergic reactions. These reactions can vary in severity from mild to severe, and a change in treatment may be suggested for the patient to avoid the causative agent going forward. This can lead to suboptimal treatment and a change from first-line therapy to a second-line therapy. In certain scenarios, drug desensitization may be considered to allow for continued administration of a standard-of-care chemotherapy agent to cure or palliate a patient's cancer.

AT A GLANCE
- Allergic reactions to oncology medications are common and seen daily on inpatient and outpatient units.
- Reactions can be distressing to patients, and, depending on the severity of the reaction, desensitization may be indicated.
- Oncology nurses can educate and reassure patients about the safety of desensitization procedures.

Reaction Risk Identification
Common chemotherapy drugs given in acute and ambulatory oncology units that have high reaction rates include the following: platinum-based drugs (carboplatin, oxaliplatin, cisplatin), taxanes (paclitaxel, docetaxel), etoposide, bleomycin, pegaspargase, and doxorubicin hydrochloride liposome (Olsen et al., 2023). Knowing a drug's reaction risk and when reactions are commonly encountered with that agent (e.g., with first or second dose versus after multiple exposures and cycles) is a first step in being proactive and ready to manage a reaction.

Oncology nurses can be prepared with several best practice suggestions prior to starting any chemotherapy regimen, including reviewing and reconciling patient allergies; reviewing each medication in the regimen, including the reaction potential of all drugs; administering premedications as ordered and maintaining efficacy time periods (e.g., at least 30–60 minutes); and having a plan in place to intervene immediately with the onset of reaction symptoms.

Nurse-driven protocols that include appropriate interventions and specific medications to combat the reaction are helpful and allow for immediate treatment of the patient without having to wait for a physician’s orders (NCCN, 2024b; Olsen et al., 2023). Reactions can start as mild but quickly progress...