

Drug allergy

Evaluation of a purported drug allergy is becoming an increasingly important role in the practice of allergy/immunology. The release of new medications has increased rapidly in the last 2 decades. As a class of drugs becomes successful in the market, competing drugs of the same class are rapidly developed. There are often congeners with similar reactivity. Older pharmaceuticals are being released to the over-the-counter market. The availability, frequency of use, and intermittent administration of drugs such as proton pump inhibitors will most likely lead to the recognition of increased adverse drug reactions. Adverse drug reactions include allergic reactions, idiosyncratic reactions, medication errors, and other injuries caused by drug-related intervention. Adverse drug reactions are estimated to occur in 5% of hospitalized patients and in even a greater percentage of outpatients. This results in a more than \$76 billion annual cost, as well as morbidity and mortality.¹

Allergy/immunology is a subspecialty of the evidence-based specialties of internal medicine and pediatrics. The allergic reaction must be approached in a scientific fashion. The history often will tell the experienced clinician if the reaction was hysterical, an effect of the drug, or a true allergic reaction. In multiple studies, most patient histories of drug allergy are not bona fide allergic reactions, and the drug can be safely readministered. The practitioner must evaluate the patient and decide if testing or laboratory evaluation can be of assistance. The benefits of therapy must be weighed against the risk of administration and desensitization. A history of life-threatening reactions, such as Stevens-Johnson syndrome or toxic epidermal necrolysis, contraindicates the repeated administration of a drug. The clinician must be prepared to sustain a patient through potential critical hypotension or respiratory distress. The patient and the physician must be prepared to make a decision regarding discontinuation if an adverse event occurs.

Historically, the allergist has been a consultant in cases of infectious disease. Thirty-five years ago, a system of major and minor determinants of penicillin was discovered and is still useful in evaluating the patient reacting to β -lactam antibiotics. Patients with chronic infections and a need for frequent antibiotics occasionally require evaluation and desensitization, such as the use of aminoglycosides in the treatment of a patient with cystic fibrosis. After desensitization, a drug may be administered frequently to maintain the desensitized state. Thus, daily penicillin may be given to maintain the desensitization that allows the short-term administration of ticarcillin. The allergist has been called to assist in the administration of medications used in endocrinology, gastro-

enterology, vaccinations, acquired immunodeficiency syndrome, and other disciplines.

The article "Carboplatin Desensitization,"² which appears in this issue of the *Annals*, demonstrates the need for the allergy/immunology consultant in oncology. Carboplatin and cisplatin have been the most frequent sensitizing agents among the multitude of chemicals that are used in the treatment of cancer. Cisplatin is no longer used as much as carboplatin because of its adverse effects. Both drugs seem to have a very high incidence of the IgE reaction. Patients often require second courses and sensitize as often as 30% of the time after the first series. Other alkylating agents are not as effective as cisplatin in the treatment of many solid tumors; thus, allergic evaluation and the administration of the drug are essential to the survival of the patient. The protocol outlined in this article is not unique. Any protocol based on a very slow progression of increasing doses of the antigen would probably also have worked. However, this regimen has the benefit of experience. Patients appeared to maintain at least a partial desensitized state for 3 weeks, akin to experience with other drugs and to immunotherapy with inhaled antigens. These patients would likely react if the interval between drug administration were lengthened. If another course of carboplatin were needed, it would again have to be administered with a desensitization protocol. This regimen is a welcome addition to the literature for the oncologist, the allergist, and their patients. Desensitization is certainly a better option for the cancer patient than the use of an inferior agent.

Although the management of drug allergy is a minor portion of the practice of most allergists and immunologists, it is an important interface with the rest of our medical community. We have an expertise in taking a history. Our knowledge of immunology, the timing of reactions, and our experience in handling the anaphylactic response is invaluable in patient care. As allergists/immunologists, we have an obligation to maintain our consulting role in hospitals so that our expertise is available to patients who critically need this modality.

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REFERENCES

1. Honsinger RW, Green GR, editors. *Handbook of Drug Allergy*. Baltimore, MD: Lippincott Williams & Wilkins; 2003.
2. Choi J, Harnett P, Fulcher DA. Carboplatin desensitization. *Ann Allergy Asthma Immunol*. 2004;93:137-141.