Rapid Protocol Safely Jump-Starts Allergy Shots

BY DIANA MAHONEY
New England Bureau

BOSTON — A new immunotherapy protocol can substantially and safely reduce the amount of time it takes for children with allergies to experience relief from their symptoms, compared with conventional allergen vaccination, reported William Smits, M.D.

In addition to saving time and money, the compressed vaccination schedule appears to improve patient compliance, Dr. Smits said in a presentation at the annual meeting of the American College of Allergy, Asthma, and Immunology.

A type of "rush" regimen, this is a novel protocol that jump-starts allergy immunotherapy with a series of in-office vaccinations given over a 2.5-hour period. Unlike other rapid desensitization efforts—many of which have been shown to evoke serious systemic reactions in a large proportion of patients—this protocol includes 3 days of premedication with corticosteroids and H1 antagonists to minimize the potential for adverse reactions.

"Previous studies [of rapid vaccination regimens] have shown reaction rates of anywhere from 30% to 40%, which is the major concern with rush protocols," said Dr. Smits of Indiana University, Fort Wayne. "With our approach, we've found a rate close to that of conventional immunotherapy."

Dr. Smits and his colleagues tested the rapid vaccination protocol in 148 children aged 1-18 years diagnosed with mild to severe asthma (118), allergic rhinitis (143), and/or chronic sinusitis (23). All of the children were pretreated for 3 days with prednisone or prednisolone and second-generation antihistamines, including cetirizine (Zyrtec), loratadine (Claritin), and fexofenadine (Allegra). On the vaccination day, the children received eight injections given at 15-minute intervals. The doses increased from an initial 1:1,000,000 dilution to a final 1:1,000 dilution.

In addition to premedication, a key to the success of this treatment is lowering the target end point dosage, said Dr. Smits.

Adherence rates were better than typically seen with conventional immunotherapy. Patient adherence rates were 95.3%, 90.5%, and 79.7% at 3, 6, and 12 months.

The harmful reactions reported in earlier studies generally occurred at the end of the rapid treatment phase, when the patient received a final high dose to be maintained for the duration of the therapy. "We stopped just before that time and gave the patients the last injections over a 2-month period."

The investigators monitored the children for systemic reactions. Of the full cohort, eight patients—seven of whom were asthma patients on inhaled corticosteroids—experienced a systemic reaction following the vaccination. None of the eight patients experienced true anaphylaxis. The patients who had reactions were treated with one or a combination of the following: nebulized breathing treatment with albuterol, two sprays in each nostril of azelastine (Astelin), and diphenhydramine (Benadryl), either orally or intramuscularly. None of the patients requiring treatment needed subcutaneous epinephrine or further treatment for recurrent symptoms. Also, none needed hospitalization.

Following the rapid protocol, all of the patients in the study continued with a conventional allergen immunotherapy regimen to reach their maintenance dose.

"Overall, the patients reached efficacious dosages almost immediately," said Dr. Smits, who estimated the average amount of build-up time saved by the new protocol to be about 6 months. "And adherence rates were better than what we typically see with conventional immunotherapy," he said. Patient adherence rates were 95.3%, 90.5%, and 79.7% at 3, 6, and 12 months, respectively, compared with approximately 50% adherence associated with conventional immunotherapy.

"Contrary to what everyone thinks, there is a way to do this safely," said Dr. Smits, who uses the rapid protocol in approximately 75% of the adults and children he treats.

The bottom line, he concluded, is that the rapid protocol "costs less, incidents of illness are reduced, and people see results more quickly." ■