DRUG ALLERGY

Prevalence of Confirmed Immediate Type Drug Hypersensitivity Reactions Among School Children

PURPOSE OF THE STUDY. To determine the frequency of immediate-type drug hypersensitivity reactions (iDHR) among children with parent-reported drug allergies.

STUDY POPULATION. Eligible participants included all students attending grades 6 through 8 in 34 randomly selected schools in Ankara, Turkey, during the 2010–2011 school year.

METHODS. Investigators conducted a cross-sectional survey of students attending grades 6 through 8 to assess the prevalence of confirmed iDHR. One-step cluster sampling design was used to randomly select the 34 schools participating in the study. After completing a questionnaire, caregivers of children with symptoms suggestive of iDHR were contacted by telephone for further questioning. After telephone interview, subjects with a history compatible with iDHR were invited for a full diagnostic evaluation for drug allergy confirmation with skin testing, specific immunoglobulin E, and/or provocation testing.

RESULTS. Investigators found that of the 10 059 subjects included in the final analysis, 7.87% (792 children) reported a history of drug allergy, and antibiotics were implicated in 57.7% of cases. The most common symptoms reported were dermatologic. Mean age and gender of children with parent-reported iDHR were not significantly different from those with no history of iDHR; however, children with parent-reported iDHR were significantly more likely to have physician-diagnosed atopic disease. Detailed telephone surveys revealed that only 1.16% (117 children) had a clinical history suggestive of iDHR. Of this sample, only 7 subjects were confirmed to have iDHR after diagnostic testing. Four children whose parents did not consent to diagnostic testing already had confirmed drug allergy based on testing done in other facilities. Consequently, only 11 (0.11%) of the 10 059 subjects in the study had confirmed iDHR.

CONCLUSIONS. The authors concluded that parental over-reporting of drug allergies is common, and patients with suspected drug allergy should undergo diagnostic testing for confirmation, including specific immunoglobulin E and/or skin testing, and if results of both are negative, provocation testing.

REVIEWER COMMENTS. This study reveals that the vast majority of reported drug reactions among children do not represent true drug allergy and suggests that the history of drug allergy alone is not sufficient to make an accurate diagnosis. This study also highlights the importance of diagnostic testing to avoid prescribing alternative medications that may be less effective, more costly, or have more adverse side effects.

Safely Diagnosing Clinically Significant Penicillin Allergy Using Only Penicilloyl-Poly-Lysine, Penicillin, and Oral Amoxicillin

PURPOSE OF THE STUDY. To evaluate if it is adequate to identify clinically significant penicillin allergy by using only the commercially available penicilloyl-poly-lysine and penicillin skin tests followed by an oral amoxicillin challenge.

STUDY POPULATION. A total of 500 sequential subjects with a history of penicillin allergy evaluated at the Kaiser Permanente Health Care Program were included in this study. A potential case of allergy to penicillin was defined as any penicillin class antibiotic allergy entry in the drug allergy section of the electronic medical record. The mean age of participants was 40.7 years, with a range of 1.1 to 93.4 years (25% were 14 years of age or younger).

METHODS. Subjects were evaluated by skin testing with penicilloyl-poly-lysine and penicillin performed by registered nurses. If the skin-prick test was positive (wheal >5 mm in diameter), no intradermal testing was done. If it was negative, then intradermal testing was performed. Patients with positive testing were told to continue to avoid penicillins. All patients who had negative skin tests underwent an oral amoxicillin challenge, followed by 1 hour of observation.

RESULTS. Only 4 subjects (0.8%) had a positive skin test result, all with intradermal testing. Only 4 persons (0.8%) had an acute objective oral amoxicillin challenge.
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