PURPOSE OF THE STUDY. Reports of paracetamol (acetaminophen) allergic and nonallergic hypersensitivity reactions are rare. However, urticaria, angioedema, dyspnea, and allergic and nonallergic anaphylactic reactions have been reported in both children and adults in association with paracetamol administration. Most reactions to paracetamol occur in patients with a nonallergic hypersensitivity to nonsteroidal antiinflammatory drugs (NSAIDs). Alternatively, reactions may result from an allergic hypersensitivity to paracetamol, with tolerance of NSAIDs. This study reports an investigation of 25 children with suspected paracetamol hypersensitivity.

STUDY POPULATION. Twenty-five children, aged 8 months to 15 years, with a history of adverse reactions associated with paracetamol administration. In 12 of the 25 children studied, paracetamol adverse reactions were associated with concurrent administration of other medications or biological agents.

METHODS. Diagnosis of paracetamol hypersensitivity was based on either clinical history or the results of an oral challenge test. Reported reactions included urticaria, angioedema, conjunctivitis, dyspnea, and a maculopapular rash. Oral challenge tests with paracetamol were performed in the hospital setting. Paracetamol dosing was initiated at 1 mg and gradually increased until the appropriate cumulative dose for age and weight was achieved. An oral challenge with acetylsalicylic acid was performed in 1 child with a history highly suggestive of paracetamol hypersensitivity.

RESULTS. Paracetamol hypersensitivity was diagnosed in 1 patient (4%) on the basis of clinical history. The child reported accelerated reactions on 2 occasions, including facial angioedema, conjunctivitis, and dyspnea with wheezing, after isolated intake of paracetamol. Oral challenge to acetylsalicylic acid in this patient induced urticaria and angioedema. Oral challenges to paracetamol in the 24 other children studied were tolerated.

CONCLUSIONS. Results of this study of 25 children with suspected paracetamol hypersensitivity concur with those of previous reports: paracetamol hypersensitivity is rare and is associated with hypersensitivity reactions to anti-inflammatory medications.

REVIEWER COMMENTS. Adverse reactions temporally associated with paracetamol may result from reactions to other medications or the underlying conditions for which these medications have been prescribed. Diagnostic evaluation of suspected paracetamol hypersensitivity is complicated further by the lack of validated, available skin or in vitro testing. Adverse reactions to paracetamol can be both allergic and nonallergic in nature. The results of this study underscore the need for careful evaluation for both paracetamol and NSAID hypersensitivity in children with a history suggestive of adverse reactions to paracetamol.

A Review of Evidence Supporting the American Academy of Pediatrics Recommendation for Prescribing Cephalosporin Antibiotics for Penicillin-Allergic Patients

PURPOSE OF THE STUDY. The American Academy of Pediatrics, in their evidence-based guidelines for treatment of otitis media and sinusitis, endorse the use of cephalosporin antibiotics for patients with reported allergies to penicillin. Many physicians, however, remain reluctant to prescribe such agents. This article reviews evidence in support of the American Academy of Pediatrics recommendations for administration of cephalosporins to penicillin-allergic children.

STUDY POPULATION AND METHODS. The author reviewed data from published studies related to penicillin and cephalosporin allergies in children and adults and in animal models.

RESULTS. Included in this review is an examination of the types and incidence of reactions to penicillins and cephalosporins, the frequency of cross-reactivity between these 2 groups of agents, and a thorough discussion of the clinical guidelines related to penicillin and cephalosporin allergy. Experimental and clinical studies that suggest that side chain–specific antibodies predominate in the immune response to cephalosporins, thereby explaining the lack of cross-sensitivity between most cephalosporins and penicillins. Specific recommendations for the treatment of patients on the basis of their responses to previously prescribed agents are summarized.

CONCLUSIONS. The author concludes that there is a low but measurable (0.5%) attributable risk associated with administration of a first-generation or selected second-generation cephalosporin to a patient with penicillin allergy. This increased risk is not present for third- or fourth-generation cephalosporins or for second-generation molecules with non–cross-reactive side chains.

REVIEWER COMMENTS. This is a very careful, comprehensive, and clinically useful review article. I recommend this article to physicians who would like to understand the evidence base and immunologic concepts underlying the use of cephalosporins in penicillin-allergic individuals.

James E. Gern, MD
Madison, WI
A Review of Evidence Supporting the American Academy of Pediatrics
Recommendation for Prescribing Cephalosporin Antibiotics for
Penicillin-Allergic Patients
James E. Gern
Pediatrics 2006;118;S21
DOI: 10.1542/peds.2006-0900JJ

Updated Information & Services
including high resolution figures, can be found at:
/content/118/Supplement_1/S21

References
This article cites 1 articles, 1 of which can be accessed free at:
/content/118/Supplement_1/S21#ref-list-1

Permissions & Licensing
Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
/site/misc/Permissions.xhtml

Reprints
Information about ordering reprints can be found online:
/site/misc/reprints.xhtml
A Review of Evidence Supporting the American Academy of Pediatrics Recommendation for Prescribing Cephalosporin Antibiotics for Penicillin-Allergic Patients

James E. Gern

Pediatrics 2006;118;S21
DOI: 10.1542/peds.2006-0900JJ

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/118/Supplement_1/S21