

624 Clinical Features and Outcomes of Peanut-Allergic Patients Who Underwent Follow-up Oral Food Challenges

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RATIONALE: Peanut allergy affects 0.8% of American children and is reportedly "outgrown" in approximately 20%. The purpose of this study was to identify clinical and laboratory features that predict which patients will develop tolerance.

METHODS: Patients followed prospectively with suspected peanut allergy (median age 6 yrs; range 3-37 yrs) and low serum peanut-specific IgE levels (median peanut-specific IgE 0.85, range <0.35-13.4) underwent oral food challenges (OFCs) to peanut.

RESULTS: Overall, 128 patients were enrolled and underwent OFCs. Atopic dermatitis, asthma, allergic rhinitis, and other food allergies affected 66%, 45%, 66%, and 70% of the patients, respectively. Sixty-eight percent of patients passed OFCs. These patients had smaller median wheals (3 mm vs 6 mm [$p<0.0001$]) and lower peanut specific IgEs (0.67 vs 1.12 kIU/L [$p=0.3$]) than patients who failed. Forty-one percent of patients reported a previous reaction to peanut; 55% of the reactions occurred before age 2. Of patients with reaction histories, 60% passed OFCs. Their median wheal size was smaller (3 mm) compared to those who failed (6 mm) ($p<0.0001$), and their peanut specific IgE was lower (0.39 vs 0.99 kIU/L) [$p=0.3$]. Of patients without reaction histories, 77% passed OFCs. Their median wheal size was 3 mm in contrast to 6 mm for the group who failed ($p<0.001$); the median peanut specific IgE was 0.72 kIU/L for tolerant patients and 1.14 kIU/L in patients who retained the allergy ($p=0.2$).

CONCLUSION: Prick skin test size is a helpful diagnostic tool for predicting likelihood of passing OFCs. Epitope recognition analysis is pending and may provide patient-specific diagnostic information.

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625 Clinical Predictors of Peanut Allergy Remission in Children

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RATIONALE: Studies of children with peanut allergy have demonstrated remission can occur but clinical predictors of remission are unclear.

METHODS: Patients were identified by skin prick tests (SPTs) and/or *in vitro* markers of IgE peanut hypersensitivity. Baseline SPTs to peanut, tree nuts and sesame, and IgE antibody levels to peanut by CAP-FEIA were documented and follow-up studies conducted at 1-2 year intervals. Peanut food challenges were conducted when SPT fell below 95% positive predictive value.

RESULTS: 267 patients were identified as IgE-mediated hypersensitive to peanuts (mean age 14 months, range 4-23 months), of whom 225 (84.3%) were followed for more than 2 years, and 115 (43%) for more than 5 years. Over 18% (49/267) became clinically tolerant (remitters) to peanut during the study period. Compared to children whose peanut allergy was non-remitting, those who remitted had a) at outset lower median peanut specific-IgE antibody level (0.94 vs. 4.14 kU_A/L) ($p<0.05$), b) a smaller median peanut SPT wheal size (5 vs. 8 mm) ($p<0.02$) at 2 years of age, c) a lower frequency of tree nut sensitization (17.4% vs. 73.2%) ($p<0.01$) and sesame sensitization (13% vs. 29.5%) ($p<0.01$) by 4 years of age. Early diagnosis at less than 12 months of age had an independent protective effect for remission, whereas early inhalation allergen sensitization before 2 years of age was an independent risk factor for persistence of peanut allergy by multivariate analysis.

CONCLUSIONS: Remission was predicted at 4 years by smaller skin prick size and by less asthma.

626 Allergy Immunotherapy Practice Patterns and Associated Outcomes of Care

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RATIONALE: To examine practice patterns in the treatment of allergic rhinitis, with focus on allergy immunotherapy (IT) and associated clinical and economic outcomes of care.

METHODS: A retrospective claims analysis using data from the 1997-2004 Florida Medicaid dataset. We identified children (<18 years) who received an allergic rhinitis diagnosis and subsequent IT. Those with ≥ 4 years of data from initial diagnosis were included in the analysis.

RESULTS: There were 104,963 children diagnosed with allergic rhinitis; 5,532 (5.3%) received IT. Mean age at IT initiation was 8.2 years (SD 3.5); 25.3% were ≤ 5 years. Compared to those who did not receive IT, those who did were significantly older (mean age 7.7 versus 7.0, $p=0.001$). Significantly more patients who received IT were male ($p=0.001$). Among those who received IT, we next compared pharmacy, outpatient and inpatient costs during the 6-month period preceding IT initiation to the 6-month period following discontinuation of IT. Pharmacy costs were significantly reduced (\$568 to \$505, $p=0.04$) following IT, as were outpatient costs (\$1,182 to \$922, $p=0.008$). There were no significant differences for inpatient costs. Those initiating IT within 6 months of their first allergic rhinitis diagnosis realized significantly greater savings in the 6 months following IT discontinuation than those who initiated IT more than 6 months after initial allergic rhinitis diagnosis (\$320 saved versus \$185 saved, $p=0.001$).

CONCLUSIONS: IT may lead to significant reductions in pharmacy and outpatient costs. Moreover, when IT is initiated within 6 months of initial allergic rhinitis diagnosis, greatest cost reduction benefits may occur.

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627 Physician and Patient Perception Differ for Symptoms Associated with Allergic Rhinitis (AR)

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RATIONALE: For the effective treatment of AR physicians need to have an accurate report of the patients' symptoms and assess control of their disease.

METHODS: A cross-sectional survey (DSP V Programme, Adelphi) was completed by AR patients attending primary care and specialist clinics in the US. Physicians were asked to complete a patient record form, which included questions on symptoms, on consecutive patients with AR. The patients were also asked to complete a record form which included questions on symptoms. The survey was conducted February to April 2006.

RESULTS: 295 matched records were completed by patients with Seasonal Allergic Rhinitis (SAR) or Perennial Allergic Rhinitis (PAR) and their physician, either a primary care physician or specialist. Physicians rated a lower proportion of the patients as having severe AR (4.8%) compared with the patients rating their own disease severity (14.8%). At the time of the consultation, nasal congestion was the most frequently recorded symptom by physicians (57.6%) and patients (49.8%), although frequency was greater according to physicians. Ocular symptoms of itchy/red and watery eyes were reported more frequently by patients (37.5% and 31.6% respectively) compared with physicians (33.9% and 28.8% respectively). The physicians reported that 23.4% of their patients suffered sleep disturbance. Nearly half the patients (47.2%) reported that they often had trouble falling asleep.

CONCLUSIONS: These data indicate that physicians tend not to fully capture the prevalence of ocular effects and sleep disturbance associated with AR. The findings support the need for a brief, easy to use patient-based measure of allergy control to improve physician-patient communication and AR treatment.

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