Utility of the Ratio of specific IgE/total IgE in Oral Immunotherapy for Food Allergy

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Rationale
- OIT remains under investigation for food allergy
- Tests to predict adverse reaction during OIT are limited

Objective: To describe associations between OIT adverse reactions, specific IgE alone, and ratio of specific IgE/total IgE

Methods
- Reviewed charts of 20 children undergoing 24 OIT trials
- Statistical analysis using t-tests and ROC curves

Results
- ROC curve
- Sensitivity
  - Ratio of s-IgE/t-IgE: 87%
  - s-IgE alone: 67%
- Specificity
  - Ratio of s-IgE/t-IgE: 33%
  - s-IgE alone: 56%
- PPV
  - Ratio of s-IgE/t-IgE: 68%
  - s-IgE alone: 73%
- NPV
  - Ratio of s-IgE/t-IgE: 60%
  - s-IgE alone: 56%

Supplemental Results
- 55% of children had a reaction during food OIT:
  - Mouth/throat itching/tingling
  - Abdominal pain
  - Nausea and emesis
  - Hives
  - Worsening of eczema
- Food allergens: peanut (n=10), cashew (n=5), almond, pistachio, milk, egg, wheat, sesame
- Age range: 4 to 14 years
- Female: 40%
- Total IgE range: 16 to 2483 kU/L
- Specific IgE range: 0.16 to >100 kU/L
- Ratio range: 0.3% to 38.7%

Supplemental Table: Performance characteristics of various potential decision points for the ratio of s-IgE/t-IgE

Supplemental ROC curve: Peanut and tree nut only (n=20)

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