

MEETING ABSTRACT

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Food allergy and anaphylaxis – 2049. Evolution of food allergy in a high risk population: the Canadian asthma primary prevention study (CAPPS)

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Background

Food allergy is on the rise. It is often assumed that allergy in early life to milk and egg often resolves whereas this is less frequent with peanut.

Methods

CAPPS is a high risk allergy and asthma birth cohort. 545 families were enrolled during pregnancy in Winnipeg and Vancouver, Canada. Study participants were prenatally randomized into a multifaceted modified diet, lifestyle and environment intervention group or control group. Questionnaires were completed prenatally and when the children were assessed by a Pediatric Allergist at 1, 2, 7 and 15 years of age. Assessments included skin testing to common inhalant and ingestant (milk, egg and peanut) allergens. A positive skin test was defined as having a mean wheal diameter \geq 3mm.

Results

At age 1, 3.4% (16/474) of children were sensitized to milk, 9.1% (43/474) to egg and 5.3% (25/474) to peanut. At age 15, 1.6% (5/321) were sensitized to milk, 1.9% (6/321) to egg and 10.9% (35/321) peanut. At age 15, 100% of children sensitized to milk and egg at age 1 were no longer sensitized to those foods. Interestingly 64% (16/25) of the children sensitized to peanut at age 1 outgrew sensitization to peanut at age 15. New food sensitizations developed between the ages of 1 and 15. Sensitization to peanut

at age 1 does have an increased risk of sensitization to peanut at age 15 (OR=9.4, 95% CI 3.6-25.0). However, sensitization to peanut at age 2 has the greatest likelihood of persistence (OR=35.8, 95% CI 14.0-91.9). At age 15, 5.6% of those tested (18/322) had developed sensitization to peanut after age 7 while 3% (10/322) of those sensitized at age 7 to peanut were no longer skin test positive. Similarly from age 7 to 15, 1.6% (5/322) became sensitized to milk and 1.6% (5/322) became sensitized to egg.

Conclusions

Food sensitization to milk, egg and peanut decrease over time. The greatest likelihood for persistent peanut sensitization is seen with a positive skin test at age 2. Risk factors for new sensitization and factors associated with the loss of sensitization need to be defined.

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