Interpreting LEAP Study results: SeaFAC Guidelines for Early Introduction of Peanut in High Risk Infants

Summary:
Infants at high risk for peanut allergy (persistent, significant eczema affecting more than 75% of skin and/or food allergy to egg) had significant decrease in development of peanut allergy with early (under age 11 months) introduction of peanut into their diet.

Background:
Food allergy affects 1-3% of children in developing countries, and the prevalence of food allergy has increased dramatically in the past several decades. For many years scientists believed that delaying the introduction of allergenic foods into an infant’s diet was beneficial, though more recent evidence has questioned this assumption. The “Learning Early About Peanut Allergy” (LEAP) Study, sponsored in part by FARE (Food Allergy Research And Education) and the National Institute of Allergy and Infectious Disease, hypothesized that the early introduction of peanuts into the diet of high risk infants may prevent peanut allergy.

LEAP Study design:
The LEAP study enrolled 640 “high risk” infants between age 4 months and 11 months. High risk was defined as having moderate to severe eczema (persistent rash affecting > 75% of skin) and/or egg allergy since children with these problems are more likely to develop peanut allergy. All of the infants were skin tested to peanut. Those who had a strongly positive skin test (> 4 mm welt from prick test) were not allowed to continue in the study because they were assumed to have peanut allergy. The rest of the infants were randomly assigned to either consume peanut at least 3 days a week until age 5 (equivalent of 6 tsp peanut butter per week) or to avoid peanuts until age 5. Importantly, all these high risk infants randomized to consume peanut underwent supervised oral challenge to peanut in the allergy clinic before feeding peanut at home.
LEAP Study Results:

- In infants with negative skin testing, peanut consumption was associated with an 86% reduction in peanut allergy at age 5 years
- In infants with low positive skin testing, peanut consumption was associated with a 70% reduction in peanut allergy at age 5 years

Conclusions:

- In high risk infants, regular consumption of peanuts started in the first year of life was associated with dramatic reduction in peanut allergy at age 5
- Screening with skin testing and selected oral challenges in the first year of life was safe
- Some patients who were allergic at age 5 months outgrew peanut allergy by age 5 years despite avoiding peanuts
- Some patients assigned to peanut consumption at age 5 months became peanut allergic before age 5 years

SeaFAC Recommendations:

- Infants between age 4-11 months old with moderate to severe eczema and/or a history of significant food allergy should be referred to an allergy specialist to undergo peanut skin testing and possible oral challenge
- Infants with negative peanut skin testing should begin eating peanuts regularly in order to prevent peanut allergy. Options for peanut include the following:
  - Smooth peanut butter (mix 2 tsp with mashed fruit such as banana)
  - Bamba® snack (2/3 of a 3.5 oz. Bag) available on Amazon.com
  - 1/3 oz. of finely ground peanuts mixed with yogurt
- Infants with equivocal or low positive skin testing should undergo oral challenge to peanut under the supervision of an allergy specialist.
- Infants with a strongly positive peanut skin test should continue avoiding peanut until further guidelines are available
- It is unknown whether early introduction of tree nuts, seeds, or other allergenic foods is beneficial.
- For infants at low risk of peanut allergy, as of yet there is no strong evidence that confirms early introduction of peanut is beneficial, though it is reasonable to consider early introduction based on studies published before the LEAP study. More extensive consensus guidelines are anticipated within 1 year.