AAP Journals BLOG

Long--Lasting Protection from Peanut Allergy

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Don't let the preposterous acronym nomenclature for this study deter you from looking closely at the report; it's an important step forward in preventing peanut allergy in children.

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Source: Du Toit G, Sayre PH, Roberts DM, et al. Effect of avoidance on peanut allergy

after early peanut consumption. NEngl J Med. 2016;374(15):1435-1443; doi:10.1056/NEJMoa1514209. See AAP Grand Rounds commentary by Drs. Neal LeLeiko and Michael Herzlinger (subscription required).

PICO Question: Among 6-year-old children who experienced early introduction of peanuts during the first 5 years of life followed by a 12-month period of peanut avoidance, does the rate of peanut allergy differ from those with no exposure to peanuts during the first 5 years of life?

Question type: Intervention

Study design: Follow-up study of randomized controlled trial

The study reported here is a follow-up of children enrolled in the LEAP (Learning Early about Peanut Allergy; shouldn't that be LEAPA?) trial. LEAP randomized 2 groups of children at high risk for allergy overall; 1 group had negative skin-prick tests (SPT) for peanuts and the other had intermediate SPT testing. They were then randomized to receive either early introduction to peanuts by oral peanut consumption starting at 4-11 months of age until 5 years of age, versus peanut avoidance during this time. The early introduction group was less likely to demonstrate peanut allergy when challenged at age 60 months.

However, the authors knew from other studies that this benefit may not last, so they continued the study by asking all participants to avoid peanuts for 12 months, and then retested them. They found evidence of persistence of the benefit in the early introduction group, with rates of peanut allergy of 4.8% versus 18.6% in the original avoidance group. They called this follow-up study the Persistence of Oral Tolerance to Peanuts study, inexplicably acronymed (yes, it's a word, look it up!) as LEAP-On.

From a design perspective, this study had a couple interesting features. First was their use of a biomarker for assessing peanut allergy, serum IgE response to Ara h2 peanut protein. See a previous Evidence eMended for more about this surrogate marker. I'll discuss more about biomarkers later this month.

Secondly, they wanted to have a backup measure for checking adherence to peanut avoidance during the 12-month peanut-free trial, to supplement the self-report questionnaires completed by parents since self-reporting of course has inherent inaccuracies. For this secondary measure, they determined peanut-protein levels in dust collected from the childrens' beds. The authors felt that this mostly correlated with parent self-reports, though it appeared there may have been a bit of stealth peanut consumption going on during the abstinence period.

Drs. DeLeiko and Hertzlinger pointed out a very important caveat in that this study did not include children at low risk for allergy, nor children with larger SPT reactions. So, we definitely shouldn't try to generalize results to those groups. They also comment that we now are in need of revised guidelines for how to incorporate these findings into practice, while awaiting results of ongoing studies.

Further Reading

- Peanut Allergy: Early vs Late Introduction of Peanuts
- Natural History of Milk Allergy in Young Children
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