Food allergy prevention with early food introduction

New recommendations on introducing allergenic solids

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Case

You are seeing a 4-month-old infant in your practice with her parents. She has mild eczema and both parents have a history of environmental allergies. They ask you about introducing allergenic solids into her diet. They are interested in any interventions that might decrease the risk of food allergy in their daughter. Where do you turn for advice?

The Canadian Paediatric Society (CPS) has recently released a new practice point on the timing of the introduction of allergenic solids for infants at high risk of food allergy.[1] In contrast to previous guideline recommendations, this practice point recommends that infants at high risk of food allergy be introduced to allergenic solids at "around 6 months of age, but not before an infant is 4 months of age" based on developmental readiness. An infant at high risk of food allergy is defined in this practice point as having a personal history of atopy (such as eczema) or an immediate family history (parents or siblings) of any atopic condition, including eczema, food allergy, asthma, or allergic rhinitis. This differs from the previous CPS definition, which focused on immediate family history only. In lower-risk infants with no personal or immediate family history of atopy, the recommendations have not changed and continue to recommend introducing allergenic solids at about 6 months of age.

This shift in recommendations is based on emerging evidence that early introduction of allergenic solids between the ages of 4 and 6 months in infants at high risk has a role in food allergy prevention, in particular for peanuts and eggs.

Recommendations

Start feeding peanut-containing foods around 6 months of age, but not before 4 months of age. The basis of this recommendation comes from the LEAP (Learning Early About Peanut Allergy) study, which randomized 640 infants at high risk of peanut allergy (owing to severe eczema or egg allergy) to early (4 to 11 months of age) or delayed (avoidance until 5 years of age) peanut introduction and found an 80% reduction in peanut allergy with early ingestion.[2] This effect was noted in infants with negative skin-prick test results to peanuts, as well as infants with mildly positive skin-prick test results to peanuts, suggesting a role in both primary and secondary prevention. A 2016 meta-analysis by Ierodiakonou et al concluded that there was moderate-quality (true effect probably close to estimated effect) evidence (2 trials; 1550 participants) that early peanut introduction between 4 and 11 months of age reduced the risk of peanut allergy (risk ratio of 0.29; 95% CI 0.11 to 0.74).[3]

Start feeding other allergenic foods around 6 months of age, but not before 4 months of age. Several randomized controlled trials have also examined the effects of early egg introduction. The PETIT (Prevention of Egg Allergy with Tiny Amount Intake) study, the most successful trial on early egg introduction, randomized 121 infants at high risk owing to eczema to early (6 months of age) or delayed (12 months of age) cooked-egg introduction and noted a dramatic reduction in egg allergy with early introduction (9% vs 38%; $P=.0012$).[4] In fact, the study was so successful that it was halted prematurely. While not all early egg-introduction studies have been as successful (other trials have used raw eggs, which are more allergenic than cooked eggs), the Ierodiakonou et al meta-analysis reported moderate-quality evidence (5 trials; 1915 participants) that early egg introduction between 4 and 6 months of age reduced the risk of egg allergy (risk ratio of 0.56; 95% CI 0.36 to 0.87).[3]

Studies are emerging (although observational) supporting the early introduction of cow's milk as a means of allergy prevention as well.[5] While there are fewer studies examining early introduction of allergenic solids such as fish or tree nuts, the mechanism of sensitization leading to allergy through the skin is thought to be the same. Hence, early introduction guidance that applies to peanut, egg, and cow's milk has been postulated to apply to other allergenic solids as well.

Keep feeding allergenic foods regularly. The CPS practice point further recommends that allergenic solids be introduced 1 at a time without unnecessary delay between each food (eg, no need to space out different new foods by several days; however, offering more than 1 new allergenic food per day could make it difficult to determine a cause of a reaction).[1] More important, if tolerated, an allergenic food should continue to be ingested by the infant a few times a week to maintain tolerance (infrequent feeding does not prevent food allergy and could increase risk). Should any reaction be noted, consultation with a primary care provider is recommended in order to determine if the reaction is consistent with a true food allergy or not.

Continue breastfeeding. Finally, in keeping with previous guideline recommendations, the CPS practice point supports ongoing breastfeeding for up to 2 years and beyond, as long as it is comfortable for mother and child, for the many benefits it provides to both mother and infant.[1]

Conclusion

The recently released CPS practice point is the first CPS document to recommend introducing allergenic solids to high-risk infants younger than 6 months of age. To the family in our case, we recommend introducing allergenic solids 1 at a time, in an age-appropriate way, when the infant is developmentally ready, around 6 months of age, but not before 4 months of age. Based on randomized controlled trials on eggs and peanuts, as well as observational studies on cow's milk, early introduction is an effective means of food allergy prevention, especially in higher-risk infants. If well tolerated, ongoing ingestion is equally important.

With emerging evidence that early introduction of allergenic solids prevents the development of food allergies in children, greater uptake of this recommendation will help reduce the burden of food allergy in Canada.

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Competing interests
None declared

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