Nutrition Strategies to Prevent Food Allergy

Key Messages
Caution needs to be taken when infants with eczema first eat egg or egg-containing foods.

Recent research suggests that a reduction in egg allergy incidence may be achieved by early regular oral egg exposure in infants with eczema, provided that the infants have tolerated their first few exposures to egg.

Current research continues to investigate the ideal age range during infancy in which food allergens may be introduced into an infant’s diet to reduce the risk of food allergy development.

The incidence of food allergy, especially in the first few years of life, has recently increased dramatically. In Australia, pre-schoolers have experienced a 5-fold increase in food anaphylaxis [1], with over 10% of 1-year-olds now having clinical food allergy [2]. Early or late exposure to food allergens in infancy has been identified as a possible food allergy prevention strategy. In 2000, it was recommended that in infants at higher risk of allergy (based on family history), the introduction of allergenic foods in their diet should be delayed, including avoidance of eggs until 2 years and nuts until 3 years of age [3]. In contrast, over the past decade, recent observational studies have found that a delayed introduction of some foods beyond 6–10 months of age has been associated with an increased risk of allergic diseases. In particular, one cohort study [4] found that delaying the introduction of egg until 10–12 months of age (adjusted OR 1.6, 95% CI 1.0–2.6) was associated with a higher risk of egg allergy compared with an earlier introduction at 4–6 months. In response to these new observations, there has been a major shift in approach, with expert committees worldwide withdrawing their previous recommendations to delay the introduction of allergenic foods [5–8]. However, it is recognised that evidence from randomised controlled trials (RCTs) are needed to determine whether early exposure to food allergens reduces the risk of food allergy.

An RCT investigating the timing of egg exposure in infants with eczema, who tend to have a higher chance of developing food allergies, has now been published [9]. One group of infants (n = 49) was introduced to whole egg powder and the other group of infants (n = 37) was introduced to rice powder from 4 months of age (fig. 1). The families mixed 1 teaspoon of powder with their infant’s solid foods each day until 8 months of age, when cooked egg was introduced to both groups of infants. At 12 months of age, a medically observed egg challenge determined which infants had developed an egg allergy. Overall, 33% of infants introduced to egg from 4 months of age developed an egg allergy compared to 51% of infants introduced to egg from 8 months of age. Unfortunately, the results of this trial did not reach statistical significance due to the trial’s small sample size. Research is continuing with at least 7 current RCTs worldwide investigating whether early food allergen exposure during infancy can prevent food allergy.

References