Research SKETCHES

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When should parents feed potentially allergenic foods to their infants?

New Canadian research suggests that delaying the introduction of milk, egg and peanut may actually increase the risk of food allergy among infants.

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What is this research about?

Food allergy is a case of "mistaken identity" where the immune system overreacts to a food or a substance in a food, triggering an allergic response that may include symptoms such as a rash, itching, hives or swelling, digestive problems and, in more severe reactions, shortness of breath, chest tightness and a severe drop in blood pressure. About 7.5% of Canadians report having a food allergy and the problem appears to be growing.

The question of when to feed potentially allergenic foods to infants has been hotly debated and research on this topic has produced inconsistent results. Most infant feeding guidelines now state that parents should not delay the introduction of foods such as milk, egg and peanut beyond four to six months of age; however, recent studies have suggested otherwise, particularly for the introduction of egg.

To the researchers' knowledge, this is the first general population-based observational study to report on how the timing of introduction of multiple foods affects the risk of developing a food allergy among infants.

What did the researchers do?

The researchers used data from 2,124 infants and their parents participating in the Canadian Healthy Infant Longitudinal Development (CHILD) Study, a study that tracks children from before birth to school age to identify the root causes of asthma, allergy and other chronic conditions.

Parents enrolled in the CHILD Study provided detailed information about their babies' diets at three, six, 12, 18 and 24 months of age. The researchers categorized the timing of introduction of cow's milk products, egg, and peanut as: a) before six months of age; b) between seven and 12 months of age; or c) avoided during the first year of life.

At one year of age, the children underwent skin prick tests to check for allergic sensitization to 10 common allergens, including cow's milk, egg and peanut. A positive skin prick test indicated sensitization, which can be an early sign of a future food allergy.

Finally, the researchers compared the infants' diet information with their skin prick test results to evaluate the impact of the timing of food introduction on allergic sensitization to foods.

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What did the researchers find?

INFANTS WHO AVOIDED COW'S MILK PRODUCTS, EGG, AND PEANUT DURING THEIR FIRST YEAR OF LIFE WERE MORE LIKELY TO HAVE ALLERGIC SENSITIZATION TO THOSE FOODS AT AGE ONE.

- Infants who avoided cow's milk products in the first year were **nearly four times as likely to be sensitized to cow's milk** compared to infants who consumed cow's milk products before 12 months of age.
- Infants who avoided egg or peanut in their first year were **nearly twice as likely to be sensitized** to those foods compared to infants who consumed them before 12 months of age.

After controlling for other factors that may affect allergy risk—geographic location, sibling order, duration of breastfeeding, parental ethnicity and self-reported parental allergies—delayed introduction of these foods still increased the likelihood that infants would become sensitized to them later on.

The study also revealed **that most Canadian parents delay the introduction of potentially allergenic foods, particularly egg and peanut.**

- 76% of parents introduced egg to their infants between seven and 12 months, while **only 3% introduced egg before six months of age**.
- 36% introduced peanut to their infants between seven and 12 months of age; only 1% of parents introduced peanut before six months of age; and **63% of parents avoided feeding peanut entirely during the first year of life**.

In contrast, 45% of parents fed cow's milk products to their infants by six months of age, and 97% of parents had introduced cow's milk products by 12 months, typically in the form of a cow's milk-based formula.

How can this research be used?

This study's findings support infant feeding guidelines that promote the introduction of foods such as cow's milk products, egg and peanut between four to six months of age.

This represents an important shift in thinking away from avoidance of potentially allergenic foods, toward their early introduction to reduce the risk of food allergy later on.

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