

Food Allergy of Infancy: Management

Pipop Jirapinyo, M.D.

Department of Pediatrics, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok 10700, Thailand.

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From a recent study, up to almost 6% of infants suffer from food allergy.¹ The infant who suffers from this disease is not only allergic to milk protein, but also to other food proteins. It is necessary to avoid such diets which may contain the allergic food proteins. Moreover, these infants may be at a constant potential risk of an anaphylaxis reaction after an accidental ingestion of the allergic foods. Since some of these foods can be tolerated by the infants when they grow older, it is recommended to periodically check for the tolerance of these foods. The main reason for this practice is to increase the choice of the foods in their diets which could prevent malnutrition in these infants.

There are many choices of therapeutic formulas to use when an infant is diagnosed of cow's milk protein allergy (CMA). Many centers recommend to use extensively cow's milk protein hydrolysed formula (EHF) or amino acid formula (AAF) as a therapeutic formula for the infants. Although the responses of AAF are better than those of EHF, the cost of using AAF for the long-term intake of these infants has limited usage. Due to high rates of intolerances of partially cow's milk hydrolysed formula, soy-milk formula, and goat milk formula, they are not recommended to be used as therapeutic formulas. Once an appropriate formula is matched to the infant, it should be used until the infant is more than 1 year of age. Then the challenge of cow's milk in that infant should be performed.

Up until now, there is no specific time to re-introduce dairy products to the infants who have been proven to have CMA since early infancy. However, most of the infants with CMA will outgrow their CMA by 4 years of age. Rottem et al² showed that 68% of the infants who had specific IgE to cow's milk protein more than 3 ku/l when they were diagnosed of CMA at one year of age still had clinical milk allergy after the age of 3 years. While 70% of those infants who had specific IgE to cow's milk protein of less than 3 ku/L at one year when they were diagnosed as CMA would resolve their CMA after the age of 3 years. In Thailand, there is still no study of the ages of these infants to tolerate dairy products. However, from most studies quite a large portion of these infants are still allergic to cow's milk protein at one year of age. Then it should be reminded to physicians to carefully re-introduce

dairy products to these infants after one year of age, especially in infants who had strongly positive IgE to cow's milk protein. Practically, we recommend to start re-introduction of dairy products at 1 year of age if the infants have not shown any signs and symptoms of CMA for at least 6 months.

The re-introduction of cow's milk protein or the challenges should be performed under close supervision of a physician and should be done in the well-prepared unit for any emergent situation. Practically, if the infant does not have a history of anaphylaxis to cow's milk protein, the physician should challenge cow's milk at an emergency unit without intravenous fluid administration. However, for the infant who once had a history of anaphylaxis to cow's milk protein, the intravenous fluid administration to the infant before the test is necessary. Before re-introduction of dairy products, a physician should prepare an appropriate dose of adrenalin for the infant in order to be ready for use. Then that infant who does not have a history of anaphylaxis to cow's milk protein will be given 1 ml of milk at 0 minute, then 5, 10, 15 and 30 ml of milk every 15-minutes interval if the infant does not show any reactions to the milk. If after 2 hours of the challenge process, the infants do not show adverse reactions to milk, it is likely that the infant has no anaphylactic reaction to dairy products. The parents of the infant will be advised to observe any untoward reactions in the infant for at least 24 hours.

Furthermore, the infant will be advised to take one bottle of milk every morning for 14 days. If there is no untoward reaction in the infants, then the infant is most likely tolerant to cow's milk. However, if the infant reacts to cow's milk during this 14-day challenge, it will be declared that the infant is still intolerant to dairy products and should avoid these products for another 3 months before doing the next challenge test.

Since these infants are at risk of allergy to other food proteins, the American College of Allergy, Asthma and Immunology recommended to introduce supplemental foods to these infants at 6 months of age, dairy product at 12 months, hen's egg at 24 months, and peanuts, nuts, fish and seafood not before 36 months of age.³ Practically, it is difficult to follow these guidelines to restrict these foods from the infants, diets. Some recommend to introduce these foods to the infants with

care by giving one food at a time every 2-3 weeks to observe the consequences from each food.

It is notable that signs and symptoms of allergy to the food may be difficult to notice and infants may react differently from their previous reaction. Therefore any symptoms that occurred within 2-3 weeks of food challenges should be included into consideration with care. Also, we do not want to over diagnose food protein allergy in these infants since it will limit the choices of foods for the infants too. In order to confirm a food allergy, a physician can re-introduce again when all the symptoms subside. If the same symptoms recur, it is most likely that the infant is allergic to that food. Therefore, the food will be avoided from the infant diets for at least 3 months before the next challenge.

Interestingly, almost all the foods that the infants are allergic to during early infancy period will be

tolerated by the 5th year of age. Therefore, FAI is a unique disease that shows a different clinical course from other allergic diseases in human.

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