Medical Xpress

Drinking milk to ease milk allergy?

October 30 2008

Giving children with milk allergies increasingly higher doses of milk over time may ease, and even help them completely overcome, their allergic reactions, according to the results of a study led by the Johns Hopkins Children's Center and conducted jointly with Duke University.

Despite the small number of patients in the trial – 19 – the findings are illuminating and encouraging, investigators say, because this is the first-ever double-blinded and placebo-controlled study of milk immunotherapy. In the study, the researchers compared a group of children receiving milk powder to a group of children receiving placebo identical in appearance and taste to real milk powder. Neither the patients nor the investigators knew which child received which powder, a rigorous research setup that minimizes the chance for error and bias.

The findings of the study are reported online ahead of print, Oct. 28, in the *Journal of Allergy & Clinical Immunology*

"Our findings suggest that oral immunotherapy gradually retrains the immune system to completely disregard or to better tolerate the allergens in milk that previously caused allergic reactions," says Robert Wood, M.D., senior investigator on the study and director of Allergy & Immunology at Hopkins Children's. "Albeit preliminary and requiring further study, these results suggest that oral immunotherapy may be the closest thing yet to a 'true' treatment for food allergy."

Currently, food allergy management involves complete avoidance of the trigger foods, waiting for the child to outgrow the allergy or treating

allergic reactions if and when they occur. The latter could be dangerous, investigators say, because these common foods are difficult to avoid and some reactions can be severe and even life-threatening.

In a report released Oct. 22, the Centers for Disease Control and Prevention estimates that food allergies are on the rise with three million children in the United States now having at least one food allergy, an 18 percent jump from 10 years ago. Milk allergy is the most prevalent type of food allergy.

"Given that the quality of life of a child with a food allergy is comparable to the quality of life of a child with diabetes, we urgently need therapies that go beyond strict food avoidance or waiting for the child to outgrow the allergy," Wood says.

Researchers followed allergic reactions over four months among 19 children with severe and persistent milk allergy, 6 to 17 years of age. Of the 19 patients, 12 received progressively higher doses of milk protein, and seven received placebo. At the beginning of the study, the children were able to tolerate on average only 40 mg (.04 ounces or a quarter of a teaspoon) of milk.

At the end of the four-month study, both groups were given milk powder as a "challenge" to see what dose would cause reaction after the treatment. The children who had been receiving increasingly higher doses of milk protein over a few months were able to tolerate a median dose of 5, 140 mg (over 5 ounces) of milk without having any allergic reaction or with mild symptoms, such as mouth itching and minor abdominal discomfort. Those who had been getting the placebo remained unable to tolerate doses higher than the 40 mg of milk powder without having an allergic reaction. In the group receiving milk protein, the lowest tolerance dose was 2, 540 mg (2.5 ounces) and the highest was 8,140 mg (8 ounces). Lab tests showed the children who regularly drank

or ate milk had more antibodies to milk in their blood, yet were able to better tolerate milk than those who took the placebo. Researchers say, tolerance in children treated with milk continued to build over time, and recommend that these children continue to consume milk daily to maintain their resistance. The researchers caution that it remains unclear whether the children would maintain their tolerance once they stop consuming milk regularly. "It may very well be that this tolerance is lost once the immune system is no longer exposed to the allergen daily," Wood says.

The Hopkins group is currently studying oral immunotherapy in children with egg allergy to determine whether increasingly higher doses of egg protein can help resolve their allergy, and have recently started another study of milk immunotherapy.

Wood emphasizes the findings require further research and advises parents and caregivers not to try oral immunotherapy without medical supervision.

Source: Johns Hopkins Medical Institutions