

Antibodies to cow's milk linked to increased risk of cardiovascular death

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Sensitivity to common food allergens such as cow's milk and peanuts could be an important and previously unappreciated cause of heart disease, new research suggests—and the increased risk for

cardiovascular death includes people without obvious food allergies.

In a paper [published](#) in *The Journal of Allergy and Clinical Immunology* that describes analyses led by Corinne Keet, MD, Ph.D., pediatric allergy and immunology professor in the UNC Department of Pediatrics of two [longitudinal studies](#), the authors show that the people who produced IgE antibodies to cow's milk and other foods were at significantly increased risk of cardiovascular mortality.

This was true even when traditional risk factors for heart disease, such as smoking, high blood pressure, and diabetes were accounted for. The strongest link was for cow's milk, but IgE to other allergens such as peanut and shrimp were also significant among those who eat the foods.

This troubling finding represents the first time that IgE antibodies to common foods have been linked to increased risk of cardiovascular mortality, the researchers report. The findings do not conclusively prove that food antibodies are causing the increased risk, but the work builds on previous studies connecting allergic inflammation and heart disease.

"People who had an antibody called IgE to foods that they regularly eat seemed to be at increased risk for dying from heart disease," said Keet, who is the corresponding author of the paper. "We were surprised by these findings because it is very common to have IgE to foods (about 15% of American adults have IgE to common food allergens), and most people don't have any symptoms when they eat the food. As allergists, our thinking has been that it is not important if people have IgE to foods, as long as they don't have symptoms when they eat the food," she said.

This research used two methods to examine the association between IgE sensitization to foods and cardiovascular mortality. Data from 4,414 adults who participated in The National Health and Examination Survey (NHANES) and 960 participants in the Wake Forest site of the Multi-

Ethnic Study of Atherosclerosis (MESA) cohort were used.

Participants were enrolled in MESA from 2000–2002 and followed for up to 19 years. Participants were enrolled in NHANES from 2005 to 2006 and data on mortality up to 14 years were tracked. Total and specific IgE was measured to cow's milk, egg, peanut, shrimp, and a panel of aeroallergens for the NHANES group. IgE to [cow's milk](#), alpha-gal, peanut, dust mite and timothy grass were measured in the MESA group.

In NHANES, 229 cardiovascular deaths were recorded and 960 deaths from MESA were also reported. Milk sensitization was particularly associated in both NHANES & MESA. Researchers also discovered that food sensitization to shrimp and peanut were both additional risk factors for heart disease.

It is also important to note that associations in the findings related to food sensitization rather than clinical allergy. Although researchers did not have access to information about clinical food allergy in either cohort, they expect that individuals who report regularly eating a food allergen on food frequency questionnaires were not showing symptoms of a food allergy.

Thus, the findings that showed how associations were strengthened when researchers excluded those who avoided the food suggest that these findings were most relevant to those who have not been diagnosed with food allergy. Keet says the results raise questions about whether these apparently non-allergic individuals may have long-term consequences from consuming foods to which they are sensitized.

The study states that aside from two [recent reports](#) linking IgE to the unusual carbohydrate allergen alpha-gal to [coronary artery disease](#), cardiovascular disease had not previously been identified as a long-term

complication of food sensitization. However, there is now substantial evidence for the importance of allergic-type immune pathways in normal cardiac physiology and [heart disease](#).

Because discovering the link between milk sensitization with cardiovascular mortality is new, Keet says there's more to explore as far as the relevance of food sensitization and diet in cardiovascular disease development.

"More research needs to be done about how sensitization to common food allergens is related to cardiovascular disease," she said. "While this study provides good evidence of an association between [sensitization](#) to these allergens and death from cardiovascular disease, there is much work to be done to understand if this is a causal relationship."

More information: Corinne Keet et al, IgE to common food allergens is associated with cardiovascular mortality in the National Health and Examination Survey and the Multi-Ethnic Study of Atherosclerosis, *Journal of Allergy and Clinical Immunology* (2023). [DOI: 10.1016/j.jaci.2023.09.038](#)

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