Staph Bacteria on Skin Associated with Food Allergy among Atopic Dermatitis Patients

Absorption of food proteins through broken skin may promote food allergy

MARCH 06, 2016

DENVER, CO — Atopic dermatitis patients are up to six times more likely to develop food allergy than those without the disease. New research at National Jewish Health suggests that colonization of patients’ skin with Staphylococcus aureus bacteria promotes the development of food allergy. The findings support an emerging concept that food proteins entering the body through cracks in the skin can sensitize patients and lead to food allergy.

Atopic dermatitis, also known as eczema, is characterized by dry, itchy skin that often cracks and bleeds. About half of patients with atopic dermatitis have skin colonized by Staphylococcus aureus bacteria, which secrete numerous toxins that damage the skin.

Andrea Jones, MD, Donald Leung, MD, PhD, and Douglas Curran-Everett, PhD, reviewed medical records of 718 children with atopic dermatitis seen at National Jewish Health. Blood tests of patients indicated more frequent and more serious allergies to peanut and egg in patients with S. aureus on their skin than among patients without the bacteria. Median blood levels of antibodies to peanut and milk were well above the threshold for allergy among S. aureus-colonized patients, and below the threshold for non-colonized patients.

The researchers also found that 59 percent of patients colonized with S. aureus had strongly positive skin tests for peanut allergy, versus 47 percent among non-colonized patients. Medical records contained food allergy diagnostic codes in 78 percent of Staph-colonized patients versus 48 percent among non-colonized patients.

“Aberrations in the skin microbiome, including S. aureus colonization, lead to skin barrier dysfunction and immune dysregulation, ultimately contributing to the development of food allergy through skin exposure to peanut allergen,” wrote the authors in the letter, published online Sunday, March 6, in The Journal of Allergy and Clinical Immunology. Dr. Jones also presented the findings that day at the annual meeting of the American Academy of Allergy Asthma & Immunology in Los Angeles, California.

National Jewish Health is the leading respiratory hospital in the nation. Founded 119 years ago as a nonprofit hospital, National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive, coordinated care. To learn more, visit the media resources page.

Media Contacts

Our team is available to arrange interviews, discuss events and story ideas.
William Allstetter
303.398.1002
allstetterw@njhealth.org

Adam Dormuth
303.398.1082
dormutha@njhealth.org