Environmental Factors Could Adjust Risk of Eosinophilic Esophagitis in People with Particular Gene Variants

A study published in The Journal of Allergy and Clinical Immunology, an official journal of the American Academy of Allergy, Asthma & Immunology (AAAAI), suggested that people with certain gene variants who were breastfed or admitted to a neonatal intensive care unit were significantly more or less likely to develop the disease.

Milwaukee, WI (PRWEB) October 10, 2017 -- In a recent study published in The Journal of Allergy and Clinical Immunology, an official journal of the American Academy of Allergy, Asthma & Immunology (AAAAI), researchers discovered that the risk of developing eosinophilic esophagitis, in people with two gene variants associated with developing the disease, could potentially be modified by certain environmental exposures.

The study, “Early-life environmental exposures interact with genetic susceptibility variants in pediatric patients with eosinophilic esophagitis,” suggested that people with gene variants in CAPN14 or LOC283710/KLF13 who were breastfed or admitted to a neonatal intensive care unit were significantly more or less likely to develop the disease.

Notably, people with a gene variant in the CAPN14 gene who were breastfed were 92% less likely to develop EoE compared to patients who had the gene variant but were not breastfed.

"While the underlying mechanism for how breastfeeding and CAPN14 may interact and protect against EoE is unknown, CAPN14 is associated with barrier function in the gut. Thus, breastmilk, in the setting of altered barrier function, may be critical to disease prevention," said lead author Elizabeth T. Jensen, MPH, PhD.

The study also suggests that admittance into a neonatal intensive care unit can significantly increase the odds of developing EoE in people with a gene variant at LOC283710/KLF13.

“The evidence is preliminary, but further understanding of these interactions could provide an opportunity to alter the development of EoE, as some environmental factors can be modified in individuals harboring specific genetic variants.” said Jensen.

The study followed 127 subjects with EoE and 121 control subjects, all of whom were recruited from the Cincinnati Center for Eosinophilic Disorders at Cincinnati Children’s Hospital Medical Center. Subjects with and without EoE were all under the age of 18 at time of enrollment and were self-reported Caucasian. They all had a DNA sample taken and their mothers were asked to fill out a questionnaire describing early life experiences.

To learn more, visit the AAAAI’s page on EoE or contact Rachel Maidl at rmaidl(at)aaaai(dot)org to request a copy of the study or an interview with Dr. Jensen.

The American Academy of Allergy, Asthma & Immunology (AAAAI) represents allergists, asthma specialists, clinical immunologists, allied health professionals and others with a special interest in the research and treatment of allergic and immunologic diseases. Established in 1943, the AAAAI has more than 7,000 members in the United States, Canada and 72 other countries. The AAAAI’s Find an Allergist/Immunologist service is a
trusted resource to help you find a specialist close to home.

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