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Research in Graubünden

When the food remains stuck in the throat

Research on Eosinophilic Esophagitis

Manal Bel imam has been researching eosinophilic esophagitis (EoE) at the Swiss Institute of Allergy and Asthma Research SIAF since 2020 for her doctoral thesis. EoE is a chronic inflammatory disease that affects the esophagus. The young researcher explains: “The disease has been studied scientifically only relatively recently, since it was recognized as a disease in its own right around 30 years ago. EoE incidence has been increasing in the last decades. In North America and Europe, an estimated seven out of every 100,000 people are newly diagnosed with the disease each year. We don’t know yet what triggers the disease. Could it be caused by dietary, genetic or environmental factors?”



EoE can be particularly problematic for children who may stop eating. Image: Adobe Stock / Joerg Rofeld Picture-Factory

EoE causes difficulty swallowing food. It can be especially problematic for children, who may stop eating and suffer from malnutrition. It is considered a food allergy, but it behaves differently than other allergies. For example, if someone is allergic to peanuts, they react immediately. With EoE, the reaction does not occur immediately, but it develops slowly. If the condition is not detected, the esophagus becomes constricted. It is irregular and inflamed.

Bel imam, with the support of her research group leader Willem van de Veen, is investigating the mechanisms underlying the disease and the role played by certain cells. One of the major players in food allergies is a specific antibody, IgE. EoE does not behave like other food allergies, and IgE has not proven to be a determining factor in this disease. Therefore, Bel imam is investigating other antibodies in the blood of EoE patients to determine whether their levels against certain foods are increased or decreased compared to healthy individuals. She wants to find out if any of these antibodies have a decisive influence on the disease. The surprising finding so far has been that all antibody levels to food allergens are elevated, because so far only one type of antibody has been considered elevated in EoE patients.

In addition, the researcher is on the lookout for biomarkers in the blood of affected individuals. Bel imam explains why: “If we could differentiate the states of the disease using biomarkers, EoE patients would not need to undergo frequent endoscopies to monitor disease progression. We already have about 140 blood samples from patients with EoE and a control group, and we will look more closely at biomarkers. So far, treatment for EoE starts with medication. If medications do not work, patients must follow a diet that excludes, for example, milk and other

common allergens. If that doesn't help either, patients must undergo physical dilation of the esophagus. There is no specific cure for EoE yet. If we could find that a certain diet works better, or that a certain antibody can be targeted, we would be able to use that to improve therapy.”

Manal Bel imam und Daniela Heinen

Further information

Research at SIAF (www.siaf.uzh.ch) focuses on the immunological basis of allergic and asthmatic diseases. SIAF is affiliated with the University of Zurich and a member of the Life Science Zurich Graduate School.

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