

National Jewish Faculty Present Research Findings at American Academy of Allergy Asthma & Immunology

FEBRUARY 15, 2010

Denver, CO — Dozens of National Jewish Health faculty presented their latest research findings at the annual meeting of the American Academy of Allergy Asthma & Immunology in New Orleans Feb 27-March 2, 2010. Below are several noteworthy presentations.

Vitamin D May Boost Effectiveness of Corticosteroids in Asthma

Vitamin D enhances the activity of the corticosteroid dexamethasone more than ten-fold in cells taken from asthma patients.

National Jewish Health pediatrician Dan Searing, MD, and his colleagues measured levels of MKP-1, a protein essential for the anti-inflammatory effects of corticosteroids, in cells that had been cultured with dexamethasone alone or with vitamin D and dexamethasone. MKP-1 levels were significantly higher in cells cultured in vitamin D and 10nm concentrations of dexamethasone, than in cells cultured in 100nm concentrations of dexamethasone alone.

The findings suggest that vitamin D supplementation in asthma patients could improve control and/or allow for lower medication doses. The researchers are developing a clinical research protocol to evaluate vitamin D supplementation in asthma patients.

Oral Immunotherapy Shows Promise for Egg Allergy

Early results from the Consortium of Food Allergy Research (National Jewish Health, Duke, Johns Hopkins, Mount Sinai and the University of Arkansas) suggest that children with egg allergy can be desensitized by giving them oral immunotherapy with egg-white solid. Fifty-five children received daily oral immunotherapy for 44 weeks followed by an oral food challenge with egg. Fifty-one percent of children receiving immunotherapy safely consumed 5 grams of egg white, while none of the 15 patients receiving placebo treatments did.

Researchers will continue to follow the children to see if they remain egg-tolerate long-term.

What is the Best Step-Up Asthma Therapy for Children?

For children whose asthma is not well controlled and on low doses of inhaled corticosteroids, a long-acting beta-agonist may be the most effective of three possible add-on therapies, according to research by National Jewish clinician-scientists and their colleagues in the Childhood Asthma Research and Education Network.

Almost all the children responded positively to at least one of the three step-up therapies, but different medications worked better for different children. About 45 percent of the children responded best to the long-acting beta agonist salmeterol, 28 percent responded best to the leukotriene receptor antagonist montelukast, and 27 responded best to doubling the dose of the inhaled corticosteroid fluticasone. [Read more.](#)

Marker for Steroid-Resistant Asthma Identified

In a featured poster presentation, Elena Goleva, PhD, described how she and her colleagues found high levels of the protein uteroglobin in the airways of steroid-resistant asthmatics compared to the airways of steroid-sensitive asthmatics. The uteroglobin was secreted from clara cells, which are found in the small airways and help protect the airway epithelium by secreting a variety of products. Uteroglobin is known to inhibit the enzyme phospholipase 2.

The higher uteroglobin levels were also detected in plasma, which could make it a measurable marker of steroid resistance. Steroid resistance is a common problem in asthma, and an effective marker could help physicians settle on an effective treatment sooner.

Exhaled Nitric Oxide for Asthma Diagnosis and Assessment in Children

There has been ongoing controversy regarding use of nitric oxide as an effective tool for asthma diagnosis and

assessment. Joseph Spahn, MD, and colleagues reported that exhaled nitric oxide is associated with physician diagnosis of asthma, days per week with daytime symptoms, asthma severity, and need for steroid bursts. They conclude the exhaled nitric oxide is a useful tool for diagnosis and assessment of pediatric asthma in an outpatient clinic.

National Jewish Health is the leading respiratory hospital in the nation. Founded 121 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