

Could Latitude, UVB Predict Food Allergy?

BY DENISE NAPOLI

WASHINGTON — EpiPen prescriptions were more common in U.S. cities at higher latitudes and with lower UVB exposure than more southern cities, suggesting a possible link between vitamin D levels and allergic disorders.

For every increase in latitude degree, the number of prescriptions for the allergy rescue medication (per 1,000 people) increased by 0.6, according to findings presented in a poster at the annual meeting of the American Academy of Allergy, Asthma, and Immunology.

"While we think that vitamin D is the most likely explanation, we also understand that these are population data, and that much more work needs to be done before we can say with confidence that low vitamin D causes food allergy," Dr. Carlos A. Camargo said in an interview.

Dr. Camargo, an emergency physician at Massachusetts General Hospital in Boston, and colleagues, looked at the number of EpiPen prescriptions in 38 west-coast cities in 2004. Data were obtained from Wolters Kluwer Health, a Phoenix-based health care information services provider. The cities were in Washington, Oregon, and California.

The data were correlated with average UVB exposure and controlled for 17 demographic characteristics.

In total, there were 151,073 EpiPen prescriptions, accounting for 245,169 pens, or 7.45 EpiPens per 1,000 people.

People in Bellingham, Wash. (latitude 48.76) required the greatest number of EpiPen prescriptions at 15.77 per 1,000 people in the city.

The lowest number of prescriptions (2.11 prescriptions per 1,000 people)

was registered in Bakersfield, Calif. (latitude 35.37) which, according to the Bakersfield Convention and Visitor's Bureau, records about 300 days of sunshine annually. Bakersfield receives approximately 50% more UVB over a calendar year than Bellingham.

Although exact annual UVB exposure data per city weren't available, Dr. Camargo said that "The key concept is that, for the west coast of the U.S.A., latitude and UVB exposure are colinear; a higher latitude equals lower UVB." And



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DR. CAMARGO

although Washington is a notoriously rainy state, "It's not the rainy days in Washington that matter, but rather the higher latitude, though rainy/cloudy days don't help."

In their earlier analysis, he and his colleagues found that New England states had the highest levels of EpiPen prescriptions, with 8-12 per 1,000 persons, whereas southern states—including California—had only 3 per 1,000 (*J. Clin. Allergy Immunol.* 2007;120:131-6).

Dr. Camargo, a faculty member at Harvard Medical School, Boston, and his coauthors reported financial ties to several pharmaceutical companies on diverse topics. None of the investigators has financial ties to the food industry, supplement manufacturers, or the indoor tanning industry. ■

Peanut, Egg, Dust Mite Allergies Increase Persistent Dermatitis Risk

WASHINGTON — Allergies to peanuts, eggs, and dust mites significantly increase the risk of persistent atopic dermatitis, study results showed.

Pediatric patients with a peanut allergy (OR = 2.9), egg allergy (OR = 2.7), or dust mite allergy (OR = 4.0) were significantly more likely to have persistent atopic dermatitis (AD) than were those without these factors in a study of 177 patients, reported Dr. Ejaz Yousef, chief of pediatric allergy and immunology at the Alfred I. duPont Hospital for Children in Wilmington, Del.

Patients aged 5-18 years were assessed for potential predictors of persistent AD, including race, age at onset, age of solid food introduction, whether the patients were breastfed, smoke exposure, coincident infection, other atopic disease, peripheral eosinophilia,

and total IgE level. Predictors were compared with AD remission versus persistence status.

Among the patients, 76% were considered to have persistent disease. No other variables were significantly associated with AD persistence, although there was a trend toward increased risk of persistent disease in those with exposure to tobacco smoke and peripheral eosinophilia, Dr. Yousef said in a poster at the annual meeting of the American Academy of Allergy, Asthma, and Immunology.

The findings highlight "the importance of determining the presence of these risk factors in patients with AD, and [of taking] steps to modify those that can be modified" wrote Dr. Yousef.

Dr. Yousef reported having no relevant financial relationships.

—Kerri Wachter

Proactive Therapy Gives AD Patients a Sense of Control

BY DENISE NAPOLI

WASHINGTON — The most significant justification for proactive topical steroid therapy administered between atopic dermatitis flares is that "normal-looking" skin is not really normal, said Dr. Andreas Wollenberg.

"It doesn't follow our dermatological tradition to treat skin that doesn't look diseased," Dr. Wollenberg said during a debate session at the annual meeting of the American Academy of Allergy, Asthma, and Immunology. But even when symptoms temporarily subside, "there is a barrier defect in the normal-looking skin. There is an infiltration of inflammatory cells in the normal looking skin. And there is an alteration of the dendritic cells in the normal looking skin."

Administering therapy proactively, as opposed to only upon flaring, increases a patient's sense of control over the disease. "From the patient's point of view, it's the patient who rules the disease, and not the disease who rules the patient," he said. "Our patients love proactive therapy."

Proactive treatment also can decrease the number of flares, as well as flare duration and severity, compared with as-needed therapy, said Dr. Wollenberg, of the Department of Dermatology and Al-

lergy, Ludwig-Maximilians-Universität, Munich. He recently completed a study showing that tacrolimus 0.1% ointment given twice weekly "significantly reduced the number of [disease exacerbations or DE] requiring substantial therapeutic intervention ... the percentage of DE treatment days ... and increased the time to first DE," (*Allergy* 2008;63:742-50).

In a rebuttal, Dr. Mark Boguniewicz of the National Jewish Medical and Research Center in Denver, cautioned that "before we accept a new paradigm like this we need to consider a few things. A critical appraisal of the current data would be useful."

"Should we ignore practice guidelines, practice parameters, consensus statements, package inserts, and the [Food and Drug Administration] boxed warnings, and can we afford to?" he asked. "And what do the adherence studies tell us?"

"Does it make sense to apply topic medications to normal-appearing skin in a disease where most of our patients outgrow the problem early on?"

He also pointed out that the effects of long-term corticosteroids on unaffected skin are not known.

Both presenters disclosed financial and consulting relationships to multiple pharmaceutical companies. ■

Mutation Ups Risk of Atopy With Eczema Herpeticum

BY KERRI WACHTER

WASHINGTON — A filaggrin mutation appears to confer susceptibility to atopic dermatitis complicated by eczema herpeticum, study results showed.

In a genotyping study, single-locus association tests revealed that filaggrin R501X null mutation is significantly associated with atopic dermatitis (AD) and atopic dermatitis complicated with eczema herpeticum (ADEH) in white and black patients, Kathleen C. Barnes, Ph.D., said in a poster presented at the annual meeting of the American Academy of Allergy, Asthma, and Immunology.

"This study of filaggrin polymorphisms suggests the functional R501X mutation, in addition to AD risk, confers an added risk of ADEH, with an estimated effect size of nearly 12 [OR = 11.8] among [white] patients," the researchers wrote. Notably, this is the first study demonstrating an association between filaggrin polymorphisms and the risk of AD and associated traits in blacks, according to Dr. Barnes of the division of allergy and clinical immunology at Johns Hopkins University in Baltimore.

The study included 414 white patients with atopy (165 with AD, 93 with ADEH, and 156 nonatopic controls) and 328 black patients (155 with AD, 21 with ADEH, and 152 nonatopic controls). AD

was diagnosed using the U.S. consensus criteria. ADEH was defined as AD with at least one documented episode of eczema herpeticum. Total serum IgE levels were measured and eczema severity was assessed using the eczema area and severity index grading system.

The R501X null mutation was genotyped using the TaqMan allelic discrimination assay. In addition, the 2282del4 mutation was genotyped using an ABI 3700 sequencer. Nine tagging single-nucleotide polymorphisms were genotyped.

The researchers found significant associations between the 2282del4 mutation and AD, with allele frequencies of 10.7% among all AD patients, compared with 5.6% among controls. However, no association was observed when the analysis was limited to the patients with ADEH. Also, no associations were observed between 2282del4 and AD or ADEH among blacks, likely because of the low frequency among healthy controls (less than 1%) and AD patients (6%) and the complete absence among ADEH patients.

"The relationship between this null mutation and disease might be related to an increased propensity to disseminated viral skin infections resulting from skin barrier dysfunction," the researchers speculated.

Dr. Barnes reported having no relevant financial relationships. ■