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RESEARCH CONFIRMS GENETIC SKIN BARRIER DEFECT LINKED TO ECZEMA

Outlook good for better therapeutic options to reduce severity of disease, related food allergies and infections

SAN ANTONIO (Feb. 3, 2008) – Atopic dermatitis, one of the most common forms of eczema in this family of various inflammatory skin diseases, is a chronic disease marked by red, cracked and itchy skin. It is estimated that atopic dermatitis affects about 10 percent of children around the world and usually begins in the first year of life. Although the disease tends to improve with age, most patients still experience dry, sensitive skin and hand eczema. Patients with severe eczema may suffer lifelong, widespread symptoms that can be debilitating.

New studies examining the genetic basis of the condition support the longstanding theory that atopic dermatitis might be caused by a defect in the skin’s protective outer layer – known as the epidermal barrier – allowing irritants, microbes and allergens to penetrate the skin and cause adverse reactions.

Speaking today at the 66th Annual Meeting of the American Academy of Dermatology, dermatologist Jon M. Hanifin, MD, FAAD, professor of dermatology at Oregon Health and Science University in Portland, Ore., discussed the implications of this new research for managing eczema and why he believes early childhood intervention needs to be re-examined by the medical community.

“Dermatologists have suspected for many years that eczema is due to a barrier problem in the skin, as we have seen numerous cases of babies with severe eczema everywhere on their bodies except in the diaper area – which - more -
stays surprisingly smooth,” said Dr. Hanifin. “The reason is that the constant moisture in the diaper area keeps the skin from cracking. That is why we encourage parents to treat eczema in infants as early as possible and continually moisturize the skin.”

Dr. Hanifin noted that the important new study found a connection between atopic dermatitis and the disease ichthyosis vulgaris, a genetic disease characterized by dry, scaly skin. In both diseases, it is believed that mutations in the filaggrin gene responsible for the proper development and functioning of the skin’s impermeable outer layer cause a defect that allows irritants to penetrate the skin.

This new information supplements other recent findings showing that when food allergens pass through the skin, they produce much greater levels of IgE antibodies – the skin-sensitizing antibodies made by the body that are linked to allergic reactions and cause rapid, and sometimes dangerous, allergic reactions to food. Dr. Hanifin estimated that 30 percent to 40 percent of kids with severe eczema will develop food allergies from increased levels of IgE antibodies, with eggs, peanuts, milk, seafood, soy and wheat posing the biggest threat.

Dr. Hanifin is hoping that this new research will dispel the common misconception that food allergies cause eczema. Rather, the food allergies are secondary to the broken skin barrier caused by eczema.

“When kids develop eczema, their parents are desperate to find out what is causing the condition, and allergies are an easy, but often mistaken, target,” said Dr. Hanifin. “Because of the barrier defect, eczema patients typically have the highest prevalence and the most positive blood or skin tests not only to foods, but to dust mites, pollen and pets. However, these are only tests and only a small proportion of the tests coincides with an actual allergy. On the other hand, the strong evidence linking a broken skin barrier to the development of future allergies offers an important prevention opportunity. Babies with eczema need early therapy with measures directed at repair and maintenance of the skin’s barrier.”

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In addition to food allergens, irritants in the form of lotions, soaps or fragrances also pose problems for eczema patients. When the skin cracks and breaks, irritants are passed through the skin and cause inflammation, stinging or itching. Dr. Hanifin cautioned that lotions containing alcohol or other irritants can cause significant irritation to babies who have eczema and advised parents to apply petroleum jelly or other non-liquid emollients to their babies’ skin after a bath to moisturize it.

Eczema patients with cracked skin also are more susceptible to developing certain bacterial and viral skin infections, due in large part to the lack of anti-microbial peptides (AMPs) in their outer layer of skin and their defective barrier development – which may hinder the normal production of these important immune factors present from birth. Normally when the skin is injured, the production of AMPs increases to defend against the invasion and proliferation of microbes that cause infections. In skin affected by eczema, this defense mechanism is not activated properly, allowing greater colonization of microbes and increasing the chance of infection. When this occurs, the skin flares very quickly, becoming more irritated and itchy. Typically, antibiotics are used to treat the infection.

“Overuse and prolonged treatment with antibiotics are real concerns for dermatologists who treat patients with eczema, as they are at risk for developing antibiotic resistance,” said Dr. Hanifin. “The new research realm directed at the epidermal barrier and the important immune factors carries the hope that new therapeutic approaches will lead to reduced infections in eczema patients.”

For more information on eczema, go to www.skincarephysicians.com, a Web site developed by dermatologists that provides patients with up-to-date information on the treatment and management of disorders of the skin, hair and nails.

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