

Researchers discover connection between allergic diseases and autoimmune diseases

April 3 2007

A new study by researchers at Children's Hospital and Regional Medical Center and the University of Washington (UW) identifies a connection between allergic diseases such as atopic dermatitis, also known as eczema, and autoimmune diseases. The study was published in the April 1 edition of *Nature Immunology*.

Approximately 75 percent of autoimmune diseases occur in women, most frequently during the childbearing years. These diseases also comprise a significant portion of chronic childhood disorders.

Autoimmune disease refers to a group of more than 80 serious, chronic illnesses including diseases of the nervous, gastrointestinal, and endocrine systems as well as skin and other connective tissues, eyes, blood, and blood vessel. In all of these diseases, the underlying problem is similar--the body's immune system (including B and/or T immune cells) becomes misdirected, attacking the very organs it was designed to protect.

"Our study implies that allergic and inflammatory diseases may actually trigger autoimmune diseases by relaxing the controls that normally eliminate newly produced, self-reactive B cells. This is important because many autoimmune diseases are caused by self-reactive antibodies produced by such B cells" said Dr. David Rawlings lead researcher and section head of Immunology at Children's Hospital and the UW.

Researchers at Children's are now trying to discover specifically where

the "relaxation" in the control of B cell autoimmunity takes place. "In association with other UW laboratories, we also have begun to study drugs that can counter some of these effects. One such drug helps to prevent autoimmune kidney disease in a related animal model," said Rawlings.

Source: Children's Hospital and Regional Medical Center of Seattle

Citation: Researchers discover connection between allergic diseases and autoimmune diseases (2007, April 3) retrieved 18 April 2024 from <https://medicalxpress.com/news/2007-04-allergic-diseases-autoimmune.html>

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