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## New Blood Test Identifies Allergen-Specific IgE More Specifically Than Older Tests

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March 22, 2005 (San Antonio) — A new method of identifying allergens from blood samples is more accurate than either conventional skin tests or older blood tests, according to a California-based investigator who presented his findings here at the 61st annual meeting of the American Academy of Allergy, Asthma & Immunology.

The study also showed, by comparing children's and parents' immunoglobulin E (IgE) levels, that the prevalence of allergies is increasing. If so, an accurate and noninvasive way of identifying allergens will be helpful to physicians as they counsel patients on appropriate therapies and avoidance measures, according to investigator P. Brock Williams, MD.

"Diagnosing allergies has been somewhat of an art form and susceptible to bias until now," Dr. Williams told Medscape. "However, this study used [a new] IgE blood test to provide the first objective and quantitative data to show that allergies are increasing in modern society." He is an associate clinical professor in the department of allergy and immunology at the University of Cincinnati in Ohio.

The method, known as ImmunoCAP, measures allergen-specific IgE. Unlike skin tests, its accuracy is not affected by any antihistamines the patient may be taking, according to company literature. The company also claims that the new test is more accurate than an older blood test, radioallergosorbant test (RAST), which is known to be less sensitive than skin tests.

Dr. Williams wanted to find out the merit behind numerous reports showing an increasing incidence of allergies in industrialized societies. The concern was whether the documented spike was due to improved reporting methods, growing patient awareness, or the use of better tests, or the increase was real and attributable to environmental or lifestyle changes.

In a study focused on the genetics of asthma, he had recruited families with at least one parent who had reversible airway disease. The family members were tested with the new system for IgE specific to several common allergens, including dust mite allergen. The cohort consisted of 666 parents with 797 sons and daughters, for a total database of 1,458.

Of these participants, 302 parents (45.3%) and 479 sons and daughters (60.1%) tested positive for mite-specific IgE, which was defined as more than 0.35 kU/L. When Dr. Williams quantified the mite-specific IgE levels in the parents compared with the children, he found that in sensitized parents, the average mite-specific IgE was 14.8 kU/L; in the sensitized children, the average level was 51.7 kU/L. Further, 10% of the parents had mite-specific IgE that exceeded 100 kU/L compared with 42% of the children.

The findings show large, objectively measurable increases in mite-specific IgE levels between parents and their offspring; therefore, the data support the theory that the incidence of allergies is increasing, Dr. Williams said.

"[This test] provides...physicians with an objective tool to accurately diagnose allergies and determine treatment strategies," said Sheryl Szeinbach, PhD, in an interview seeking outside comment. Although not involved in the study, Dr. Szeinbach has also investigated the new technology. "With objective data, physicians can effectively treat patients, and children in particular, by interrupting the...progression of allergic diseases that can lead to asthma if left untreated." Dr. Szeinbach is a professor of pharmacy practice and administration at Ohio State University in Columbus.

The study was funded by Pharmacia Diagnostics, the maker of ImmunoCAP.

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*Reviewed by Gary D. Vogin, MD*