

Infants exposed to specific molds have higher asthma risk

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(Medical Xpress) -- In the United States, one in 10 children suffers from asthma but the potential environmental factors contributing to the disease are not well known. Cincinnati-based researchers now report new evidence that exposure to three types of mold during infancy may have a direct link to asthma development during childhood.

These forms of mold-*Aspergillus ochraceus*, *Aspergillus unguis* and *Penicillium variable*-are typically found growing in water-damaged homes, putting a spotlight on the importance of mold remediation for public health.

Lead author Tiina Reponen, PhD, and colleagues report these findings in the August 2012 issue of the *Journal of Allergy and Clinical Immunology*, the official scientific publication of the American Academy of Allergy, Asthma and Immunology.

In a long-term population study of nearly 300 infants,, researchers from the University of Cincinnati (UC), U.S. Environmental Protection Agency (EPA) and Cincinnati Children's Hospital Medical Center assessed allergy development and the respiratory health of children annually for the first four years of life then again at age 7-an early age for objective diagnosis of asthma in children. The team also monitored home allergens and mold. All infants enrolled in the study were born to at least one parent with allergies.

They found that 25 percent of children whose parents had allergies were

asthmatic by age 7. Among the multiple indoor contaminants assessed, only mold exposure during [infancy](#) emerged as a risk factor for asthma at age 7.

"Previous scientific studies have linked mold to worsening asthma symptoms, but the relevant mold species and their concentrations were unknown, making it difficult for public health officials to develop tools to effectively address the underlying source of the problem," explains Reponen, who is a professor in the UC College of Medicine's environmental health department.

The UC-based team used the environmental relative moldiness index (ERMI), a DNA-based mold level analysis tool, to determine that exposure to *Aspergillus ochraceus*, *Aspergillus unguis* and *Penicillium variabile* was linked to asthma development in the high-risk study population. The ERMI tool was developed by the EPA to combine analysis results of 36 different types of mold into one index that describes a home's cumulative mold burden.

"This is strong evidence that indoor mold contributed to asthma development and this stresses the urgent need for remediating water damage in homes, particularly in lower income, urban areas where this is a common issue," says Reponen. "Therapeutics for [asthma](#) may be more efficient if targeted toward specific mold species."

Provided by University of Cincinnati Academic Health Center

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