

Fall babies: Born to wheeze?

November 21 2008

It is said that timing is everything, and that certainly appears to be true for autumn infants. Children who are born four months before the height of cold and flu season have a greater risk of developing childhood asthma than children born at any other time of year, according to new research.

The study analyzed the birth and medical records of more than 95,000 children and their mothers in Tennessee to determine whether date of birth in relationship to the peak in winter respiratory viruses posed a higher risk for developing early childhood asthma. They found that while having clinically significant bronchiolitis at any age during infancy was associated with an increased risk of childhood asthma, for autumn babies, that risk was the greatest.

"Infant age at the winter virus peak following birth independently predicts asthma development, with the highest risk being for infants born approximately four months prior to the peak, which is represented by birth in the fall months in the Northern hemisphere. Birth during this time conferred a nearly 30 percent increase in odds of developing asthma," said Tina V. Hartert, M.D., M.P.H., associate professor of medicine and director of the center for Asthma Research at Vanderbilt University, and principal investigator of the study.

The research was published in the first issue for December of the *American Journal of Respiratory and Critical Care Medicine*, a publication of the American Thoracic Society.

The study demonstrated for the first time that timing of birth in relationship to the peak in winter virus activity independently predicts asthma development.

The researchers propose two non-mutually exclusive possible reasons for the link: One, that there is a genetic susceptibility common to both bronchiolitis and the development of asthma; and two, that an environmental exposure such as winter viral infection causes asthma.

"The risk of progressing from bronchiolitis to asthma is almost certainly influenced by genetic factors," wrote Dr. Hartert. "However, if this association were due only to genetic factors, there would be a seasonal effect on infection but not on asthma... Instead we have shown that there is variation in the risk of developing asthma by the timing of birth in relationship to the winter virus peak for each year studied. This supports a causal relationship of childhood asthma with the winter virus peak after birth."

Unfortunately, predicting the peak of winter virus season is difficult—it can vary by up to ten weeks a year, and Dr. Hartert notes that avoiding winter virus infection would be nearly impossible—70 percent of infants are infected in their first year of life—but that for families whose infants are at high risk for developing asthma, there are a number of ways to reduce the risks associated with birth timing, including avoiding infection through administration of a vaccine or immunoprophylaxis or timing of birth in the spring months. These strategies hold the hope for asthma prevention, however, these interventions first need to be studied.

"Prospective trials with antiviral strategies, including potential new vaccines targeting [respiratory viruses] in selected populations at risk should give us better understanding of the role of viral infections in early life in the causation of childhood asthma," wrote Renato T. Stein, M.D., Ph.D., of the Pontifícia Universidade Católica in Porto Alegre, Brazil in

the accompanying editorial.

Currently no effective primary and secondary asthma prevention measures exists, noted Dr. Hastert. "The next critical step is support for studies designed to determine whether prevention of the ubiquitous infections during infancy prevents childhood asthma."

Source: American Thoracic Society

Citation: Fall babies: Born to wheeze? (2008, November 21) retrieved 3 January 2023 from <https://medicalxpress.com/news/2008-11-fall-babies-born-wheeze.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.