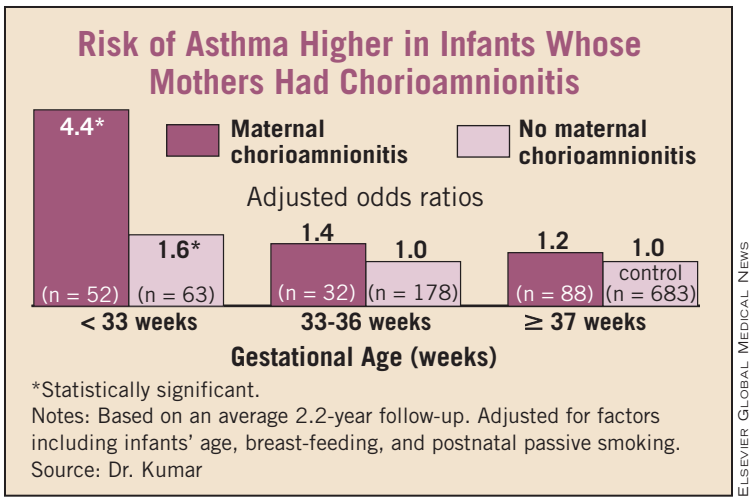

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Asthma in Preemies May Be Linked To Chorioamnionitis in Mothers

BY MITCHEL L. ZOLER
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PHILADELPHIA — Children born prematurely to mothers who developed chorioamnionitis during pregnancy were about fourfold more likely to develop asthma and wheezing during the first 2 years of life, compared with term infants born to mothers without chorioamnionitis, based on data collected on nearly 1,100 children.

The finding needs to be extended by following the children to an older age and by studying other populations. If the findings are confirmed in such studies, earlier treatment and resolution of chorioamnionitis may have important implications for the future respiratory health of affected children, Dr. Rajesh Kumar said at the annual meeting of the American Academy of Allergy, Asthma, and Immunology.

"A lot of the chorioamnionitis was subclinical. We don't know if treatment will prevent the effect of

chorioamnionitis on recurrent wheezing, but this would be an area for future study," he said in an interview.

"What was surprising was the degree of association that chorioamnionitis had with wheezing and asthma," whereas no link was seen between prematurity, chorioamnionitis, and food allergy or eczema, said Dr. Kumar, a pediatric allergy and asthma specialist at Children's Memorial Hospital and Northwestern University in Chicago. Atopy does not appear to play a role.

An alternative, physiological explanation is that chorioamnionitis produces a strong, proinflammatory response that boosts levels of various cytokines, such as tumor necrosis factor–α, and interleukin-6 and -8. Cytokines like these may trigger premature birth, and may also lead to chronic respiratory disease in the fetus.

Results from some prior studies had shown a link between prematurity and an increased risk for asthma, but this link was not confirmed in all studies. Prior studies did not consider the underlying pathogenesis that led to premature birth, which may account for the inconsistency, Dr. Kumar said.

His analysis was based on data from children in the Boston Birth Cohort, an ongoing study at Boston Medical Center that began in 1998. Included were 771 term and 325 preterm infants who completed at least one postnatal examination. These numbers make the analysis one of the few prospective studies large enough to allow stratification of the infants in groups according to the severity of prematurity and the presence of chorioamnionitis, he noted. The average age of the children at their last follow-up visit was 2.2 years.

The analysis adjusted for several infant and maternal variables, including breast-feeding, postnatal passive smoking, maternal smoking during pregnancy, and maternal educational status. Infants born at less than 33 weeks' gestation to mothers who had chorioamnionitis were 4.0-fold more likely to wheeze and 4.4-fold more likely to have asthma, compared with infants born at 37 weeks or beyond to mothers without chorioamnionitis. (See graph.) Both differences were highly statistically significant. In contrast, infants born before 33 weeks to mothers without chorioamnionitis were 2.7-fold more likely to wheeze (a significant difference), but were no more likely to have asthma than were term infants.

"One of the major issues in our study was that our primary outcome was recurrent wheezing of early childhood. We also evaluated physician-diagnosed asthma, but this is a bit less clear of a diagnosis at a young age. We will continue to follow these children [until] they are 6 years of age to see if the effects of chorioamnionitis on physician-diagnosed asthma will truly equate to persistent asthma by the time the children are older," Dr. Kumar said.

The associations were even stronger in infants born to African American mothers, about 62% of the study cohort. In this subgroup, infants born at less than 33 weeks to mothers with chorioamnionitis were 5.4-fold more likely to have wheezing and 5.2-fold more likely to have asthma than infants born at term to black mothers without chorioamnionitis. Both differences were highly significant. Again, infants born at less than 33 weeks to mothers without chorioamnionitis were 3.8-fold more likely to wheeze, but did not have a significantly increased risk for developing asthma. ■

Breast-Feeding May Protect vs. Type 2 Diabetes

Breast-fed babies may be protected against developing type 2 diabetes during childhood, regardless of ethnicity, according to results from an adjunct study to the ongoing SEARCH for Diabetes in Youth study.

The dramatic increase in type 2 diabetes in youth has inspired researchers to identify behaviors that might prevent both obesity and type 2 diabetes, wrote Elizabeth J. Mayer-Davis, Ph.D., of the University of South Carolina, Columbia, and her colleagues.

Their case-control study, conducted at two of the SEARCH for Diabetes in Youth study sites, included 80 participants aged 10-21 years with type 2 diabetes and 167 age-matched controls (Diabetes Care 2008; 31:470-5).

Overall, the prevalence of breast-feeding for any length of time was significantly lower among youth with type 2 diabetes, compared with controls (31% vs. 64%).

When the study population was divided into three ethnic groups, the prevalence of breast-feeding was lower among black youth with type 2 diabetes than among controls (20% vs. 27%), although this difference was not statistically significant. But the difference remained significant among Hispanics (50% vs. 84%), and among non-Hispanic whites (39% vs. 78%).

The researchers noted previous evidence that a lower prevalence of breast-feeding among blacks, compared with other ethnicities, might be a confounding variable.

—Heidi Splete