Smoking, Asthma Raise Infant Bronchiolitis Risk

BY ROBERT FINN
San Francisco Bureau

SAN FRANCISCO — Maternal smoking, maternal asthma, or both are independent risk factors for the development of bronchiolitis in infants, according to findings of a large retrospective study.

After controlling for maternal race, region of residence, infant sex, infant birth weight, and whether the child has one or more living siblings, children of women who had a history of asthma and who smoked during pregnancy were 47% more likely to develop bronchiolitis during their first year of life than children whose mothers had neither risk factor, Dr. Kecia Carroll reported at the annual meeting of the Pediatric Academic Societies.

Children of mothers who had asthma alone had a 39% increased risk of bronchiolitis, and children of mothers who smoked but did not have asthma had a 14% increased risk. All of these adjusted hazard ratios were statistically significant.

Dr. Carroll and her colleagues from Vanderbilt University, Nashville, Tenn., combined records from the state of Tennessee's Medicaid program with public records data from 1995 through 2003, and isolated 101,459 mother-infant dyads that met certain criteria: All mothers were enrolled in Medicaid continuously beginning at least a year before the birth through a year after the birth, and the infants were all healthy, full-term, singleton babies without chronic lung or heart disease.

Overall, about 20% of the infants developed bronchiolitis during their first year of life. Before adjustment for the potential confounders mentioned above, about one-third of infants with both maternal asthma and maternal smoking had at least one clinic, emergency department, or hospital visit for bronchiolitis, compared with 24% of infants with maternal asthma, 24% of infants with maternal smoking, and 18% of infants with neither risk factor.

Maternal smoking, asthma, or both also increased the risk for severe bronchiolitis, defined as disease requiring 3 or more days of hospitalization. The risk increased a statistically significant 19% for maternal smoking, 52% for maternal asthma, and 39% for both smoking and asthma. The meeting was sponsored by the American Pediatric Society, Society for Pediatric Research, Ambulatory Pediatric Association, and American Academy of Pediatrics. ■

Prednisolone Aids Wheezing Linked To Rhinovirus

Children with rhinovirus who received oral prednisolone suffered significantly less recurrent wheezing compared with children with respiratory syncytial virus who also received the steroid or children who received placebo.

Dr. Tuomas Jartti, of the department of pediatrics at Turku (Finland) University Hospital, and associates analyzed 78 children aged 3-35 months who completed hospitalization for rhinovirus (40 children) or respiratory syncytial virus (RSV) infections (38 children). The children were randomized to receive an initial oral dose of 2 mg/kg prednisolone, followed by 2 mg/kg per day in three divided doses for 3 days (46 patients), or placebo (32 patients). The children with rhinovirus were significantly more likely to be older, atopic, and recurrent wheezers, and they had significantly higher blood eosinophil levels and exhaled nitric oxide levels than did the children with RSV (Pediatr. Infect. Dis. J. 2006;25:482-8). Children in the RSV group were significantly more likely to have acute otitis media and to have been treated with antibiotics than were those in the rhinovirus group.

Children with rhinovirus or RSV who received oral prednisolone did not leave the hospital more quickly than children in the placebo group (22 hours vs. 30 hours).

By reducing recurrent wheezing, prednisolone use significantly decreased the need for outpatient visits in children with rhinovirus infections—but not in children with RSV infections—compared with children who received placebo.

"We speculate that an early asthma-like inflammation could explain the beneficial effect of prednisolone in the rhinovirus group," the investigators said.

Prednisolone was well tolerated; no significant adverse events were reported.

—Heidi Splete