High Parity Poses Greatest SIDS Risk in Offspring

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WASHINGTON — High parity has replaced preterm delivery as the greatest risk factor for SIDS, according to a study of national data, presented at the annual meeting of the Pediatric Academic Societies.

"Our highest single risk factor was high parity," said Donna R. Halloran, M.D., of the University of Alabama, Birmingham. Mothers with a parity of five or greater were 3.6 times more likely to have an infant die of SIDS.

The shift follows an epidemiologic shift in SIDS deaths that occurred in the mid-1990s. In 1991, 1.2 cases of SIDS occurred for every 1,000 live births in the United States. By 1996, the number had dropped dramatically, to 0.7 cases for every 1,000 live births. In 2002, there were 0.6 cases for every 1,000 live births.

The decrease in SIDS deaths has been attributed to the National Institute of Child Health and Human Development's "Back to Sleep" educational campaign initiated in 1994. The number of parents putting their infants in a prone sleep position dropped dramatically. In 1992, 70% of infants were sleeping in a prone position, compared with 18% in 1996.

The study population included all singleton live births in the United States from 1996 to 1998. These data came from the National Center for Health Statistics birth cohort (with linked birth and death files). Infants were excluded if their gestation was less than 22 weeks or greater than 44 weeks. Multiple gestations also were excluded, as were infants of nonresident mothers.

The multivariate analysis model included maternal variables—race/ethnicity, education, age, marital status, smoking, alcohol use, diabetes, hypertension, and parity. The model also included infant gender, region of birth, fetal growth, and gestation. Fetal growth was defined as birth weight given the length of gestation: small (lower-10th percentile), appropriate, and large (upper-10th percentile).

A total of 8,199 deaths due to SIDS were identified for a rate of 0.72 deaths per 1,000 live births. High parity may have replaced preterm delivery as the greatest risk factor, but preterm birth still is a strong predictor of SIDS risk. Infants less than 32 weeks gestational age were three times more likely to die of SIDS, compared with those born at the gestational age of 40-41 weeks. The odds ratio for SIDS death increased as gestational age decreased.

This may be especially important because the preterm delivery rate has risen in the last 15 years. In 1990, 10.6% of infants born in the United States were preterm. In 2002, 12.1% of infants were born preterm—almost a half million infants per year.

"We found that preterm birth and fetal growth are actually independent risk factors for SIDS. This is a new finding in the United States," said Dr. Halloran. Infants small for their gestational age were 1.7 times more likely to die of SIDS. Large size seemed to have a protective effect, with infants large for their gestational age 30% less likely to die of SIDS.

Hispanic infants were 50% less likely to die of SIDS, compared with non-Hispanic white infants. Non-Hispanic black and American Indian infants had a greater risk (OR 1.3 and 1.4, respectively). "Native Americans and non-Hispanic blacks actually have increasing odds ratios," she said. It appears this may be due to the rate of SIDS deaths having dropped among non-Hispanic whites, resulting from the success of the "Back to Sleep" educational campaign.

Other traditional risk factors for SIDS are unchanged following this epidemiologic transition. Male infants were 1.5 times more likely to die of SIDS than females. Infants born to mothers with low education were 1.3 times more likely to die of SIDS; those born to mothers with higher education levels were 20% less likely to die of SIDS.

Infants born to mothers younger than 20 years of age were 1.7 times more likely to die of SIDS than those born to mothers in their 20s, and infants born to mothers older than 30 and older than 35 were both 50% less likely to die of SIDS. Infants born to unmarried mothers were 1.6 times more likely to die of SIDS than those born to married mothers. Infants born to women who smoked were 2.4 times more likely to die of SIDS than those born to nonsmokers.

The meeting also was sponsored by the American Pediatric Society, the Society for Pediatric Research, the Ambulatory Pediatric Association, and the American Academy of Pediatrics. ■