Intrapartum Fever Is Associated With Neonatal Encephalopathy

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

WASHINGTON — Isolated intrapartum fever and chorionamnionitis are independent risk factors for neonatal encephalopathy. Heidi Blume, M.D., said at the annual meeting of the Pediatric Academic Societies.

“It remains unclear if fever is the cause of injury, exacerbates injury, or is a sign of some other noxious process,” said Dr. Blume of the University of Washington, Seattle.

Neonatal encephalopathy, which affects up to 6 in 1,000 term infants annually, is a clinically defined syndrome of disturbed neurologic function during the infant’s earliest days of life. Symptoms include difficulty initiating and maintaining respiration; depressed tone and reflexes; subnormal level of consciousness; and, sometimes, seizures.

Dr. Blume undertook a population-based, case-control study of infants born in Washington from 1994 to 2002. She used data from the Washington State Birth Registry; this information is linked to the state’s Comprehensive Perinatal Database and the Washington State Death Registry. The system includes discharge diagnoses, diagnosis and procedure codes, and dates of hospitalization.

The 1,114 cases were singleton term infants whose ICD-9 diagnosis diagnoses included birth asphyxia, newborn convulsions, central nervous system dysfunction, or other cerebral irritability.

These cases were matched with 6,046 control infants. Exposure to isolated intrapartum fever was defined as maternal intrapartum fever of 38°C or greater, or ICD-9 diagnosis of maternal intrapartum pyrexia without chorionamnionitis.

Exposure to chorionamnionitis was defined by ICD-9 diagnosis of maternal-fetal infection.

It remains unclear whether isolated intrapartum fever “is the cause of injury, exacerbates injury, or is a sign of some other noxious process.”

The study’s findings suggest that regardless of birth weight or prematurity, infants exposed to isolated intrapartum fever had a threefold increased risk of being diagnosed with seizure and a 3.5-fold increased risk of being diagnosed with birth asphyxia.

Infants exposed to chorionamnionitis had a fivefold increased risk of being diagnosed with seizure and almost a sevenfold increased risk of being diagnosed with birth asphyxia.

Dr. Blume noted some limitations in the study. She was not able to review charts, so it was impossible to determine what symptoms led to the diagnosis and discharge codes. However, she felt certain that few of the infants had meningitis, since the cases were limited to infants who were diagnosed during their newborn hospitalization, or who were admitted within 2 days of birth.

Study Finds 5-Minute Apgar Highly Predictive of Respiratory Distress Syndrome

BY KATE JOHNSON
Montreal Bureau

SAN FRANCISCO — Newborns with a 5-minute Apgar score of 7 or less have a high risk of developing respiratory distress syndrome, according to Linda R. Chambliss, M.D., associate director of maternal fetal medicine at the Maricopa Integrated Health System in Phoenix, Ariz.

The recent findings should help alert physicians to high-risk infants who should be monitored more intensively or given therapies to reduce the incidence or severity of respiratory distress syndrome (RDS), she reported at the annual meeting of the American College of Obstetricians and Gynecologists.

“What is surprising is that many people, including myself, have felt that as long as the 5-minute Apgar hits 7, the baby will be fine, but this is not necessarily the case,” she told this newspaper. “Clinicians who deliver an infant with such a score should counsel the families and the nursery that RDS is very likely. These infants have to be watched very closely.

Her study analyzed the records of 3,039 infants exposed to the following risk factors for RDS: exposure to intrapartum fever, prolonged rupture of membranes, preterm birth, cesarean delivery, and birth trauma. She found that newborns with a 5-minute Apgar score of 7 or less were at an independent risk factor for RDS, with an adjusted odds ratio of 25.

Apgar scores of 7 or less were associated with a 2.5-fold increased risk of being admitted to the nursery with a diagnosis of RDS, she said.

When the infant’s birth weight was substituted for gestational age, the risk remained similar (odds ratio 22). Low birth weight and prematurity are well-recognized risk factors for the development of RDS, even when Apgar scores are normal, Dr. Chambliss said.

But her findings suggest that regardless of birth weight or prematurity, or any of the other variables that the researcher measured, the 5-minute Apgar score of 7 or less remains a high risk factor for RDS.

People may not have realized how strongly this predicts future problems with RDS, she said. While the Apgar score may not be the best way to predict some complications, such as retinopathy, she feels there is a great deal of utility to predict the risk RDS even when controlled for a number of other variables, she told this newspaper.