Valproate in Utero May Affect Child’s Language

BY MICHELE G. SULLIVAN

BANGKOK, THAILAND — Expressive and receptive language abilities are significantly poorer in 3-year-olds who were exposed to sodium valproate in utero than they are in children who were exposed to other individual antiepileptic drugs during gestation, based on a subanalysis of the Neurodevelopmental Effects of Antiepileptic Drugs study.

Valproate exposure was associated with a 10-point difference on both language measures compared with exposure to phenytoin, carbamazepine, or lamotrigine—a difference that is not only statistically significant, but clinically important as well, Gus A. Baker, Ph.D., said at the World Congress of Neurology.

The differences appear in these 3-year-old subjects will likely expand as the groups grow older, said Dr. Baker, director of the division of neurosciences at the Walton Centre for Neurology and Neurosurgery in Liverpool, England. “We can expect the difference in the magnitude to get greater and not smaller with age,” he said. Already, Dr. Baker noted, valproate-exposed 3-year-olds in the U.K. portion of the study are lagging behind a group of matched controls. “Well over a third of those exposed to valproate have been referred for speech therapy, so we see that this 10-point difference has real meaning in terms of day-to-day practice.”

The prospective, observational Neurodevelopmental Effects of Antiepileptic Drugs (NEAD) study included 303 pregnant women who were taking sodium valproate, carbamazepine, lamotrigine, or phenytoin as monotherapy. Enrollment occurred during 1999-2004 in 25 epilepsy centers in the United States and the United Kingdom. Separate investigations in the United States and the United Kingdom were later combined. The primary outcome was cognitive performance of the children at 6 years of age.

Dr. Baker, a primary investigator in the U.K. study and co-investigator in the overall study, presented the results of the study’s effect on expressive and receptive language development among 234 children who were 3 years old at assessment. The children all underwent testing of verbal and nonverbal communication, including expressive and receptive language, visual motor construction, and non-verbal intellectual ability.

“We are highly likely to acquire a greater rate of transmission in horizontal rather than vertical,” Dr. Baker noted, with strains identical to the mother’s vaginal strain, but only 2 had strains identical to the mother’s nasal strain. This suggests that the transmission was horizontal rather than vertical.

Two other pieces of evidence supported the hypothesis that most transmission was horizontal. Only 5% of newborns had acquired S. aureus from their carrier mothers, 9 had strains that were genetically identical to the mother’s nasal strain, but only 2 had strains identical to the mother’s vaginal strain. This suggests that the transmission was horizontal rather than vertical.

Disclosures: The NEAD study is funded by the National Institutes of Health. Dr. Baker said he had no financial disclosures.

Chronic Kidney Disease Ups Risk For Poor Pregnancy Outcomes

BY DOUG BRUNK

SAN DIEGO — Although pregnant women with chronic kidney disease face an elevated risk of adverse maternal and fetal outcomes, most are able to deliver a surviving newborn, according to results from a multicenter study.

The current analysis is believed to be the second largest of its kind and supports earlier findings in the medical literature, Dr. Mohammed Alghonaim said in an interview during a poster session at the annual meeting of the American Society of Nephrology.

“These women need vigilant care,” said Dr. Alghonaim of the nephrology section at King Saud University, Riyadh, Saudi Arabia. “If we have a previous pregnancy, I would not advise them to get pregnant again if they have advanced-stage chronic kidney disease because of the potential for adverse maternal and fetal outcomes.”

In a study led by his associate at the university, Dr. Abdulkareem Alsuwaida, researchers at five tertiary hospitals in the Middle East reviewed 101 pregnancies in women (mean age, 32 years) with chronic kidney disease to estimate the rate of fetal, maternal, and neonatal complications.

The mean serum preconception creatinine concentration was 81.2 μmol/L, and the mean 24-hour urine proteinuria was 1.97 g/day. A total of 21 women (21%) had renal impairment, with a mean serum creatinine of 144 μmol/L. In 10 pregnancies (10%), levels of serum creatinine rose more than 25% from preconception levels. Overall maternal and fetal complications included cesarean section (39%), preeclampsia (23%), preterm delivery (22%, with 4% delivered at less than 30 weeks’ gestation), and intrauterine growth retardation (19%). Six infants (6%) were stillborn.

“Renal impairment was the most important predictor for both maternal and fetal complications,” Dr. Alghonaim said.

Disclosures: Dr. Alghonaim said he had no financial conflicts of interest.