Benefits of Prenatal Steroids Seen Beyond 7 Days

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RENO, NEV. — A single course of prenatal steroids given to hasten fetal lung maturity is effective for longer than 7 days, meaning there may be no need for a repeat, rescue dose, Alan M. Peaceman, M.D., said at the annual meeting of the Society for Maternal-Fetal Medicine.

In a review of 162 infants whose mothers had received a single, full course of prenatal steroids and who were born before 34 weeks' gestation, the only significant difference between those born within 7 days of the treatment and those born after 7 days was a greater need for ventilatory support.

"I think we need to reexamine our assumption that steroids lose their benefit after 7 days," he said in an interview.

In 2000 a National Institutes of Health consensus panel recommended against the practice of repeat courses of prenatal steroids when a patient at risk for premature delivery did not deliver within 7 days of the treatment because of the possible risks associated with multiple courses.

It is not uncommon, however, for some physicians to use a single, repeat "rescue" course when delivery seems imminent and 7 days have elapsed, or for physicians to hold off giving the initial course until just before they think the patient will deliver, said Dr. Peaceman of the department of maternal-fetal medicine at Northwestern University, Chicago.

The evidence offered by his review of cases is not as definitive as that of a prospective trial, he said, but it does suggest one could give a single course at 24 weeks, as guidelines suggest.

"I'm not recommending anything," Dr. Peaceman said in the interview. "But that is what the data are leaning toward: That there is no point in waiting" until closer to a patient's expected delivery date. Similarly, there is no need to give a repeat or "rescue" dose after 7 days if the patient still has not delivered.

In the reviewed cases, 84 of the 162 infants were born within 7 days of the treatment and 78 were delivered after 7 days. The groups did not differ in any of the assessed characteristics, including maternal age, route of delivery, and birth weight, Dr. Peaceman and coinvestigator William A. Grobman, M.D., also of the department, wrote in a poster that was presented at the meeting.

Respiratory support, defined as mechanical ventilation or continuous positive airway pressure use for greater than 24 hours, was needed by 63% of the infants delivered within 7 days, compared with 81% of the infants delivered after longer than 7 days.

None of the other outcomes considered, however, showed any statistically significant difference between groups. (See table.)

In a subanalysis, the researchers assessed data for those infants born at less then 30 weeks' gestation. There were still no significant differences between treatment groups other than respiratory support. Furthermore, the study observed no association between neonatal morbidity and the length of time beyond 7 days that passed before delivery. ■

Outcomes in Babies Born to Women Given a Single Course of Antenatal Steroids

	Delivery within 7 days Of treatment (n = 84)	Delivery after 7 days Of treatment (n = 78)
Mechanical ventilation	49%	59%
Ventilator days (mean)	0 days	1 day
Surfactant use	39%	47%
Oxygen dependence at 28 days	23%	22%
Oxygen dependence at 36 weeks	12%	11%
Necrotizing enterocolitis	6%	4%
Intraventricular hemorrhage (IVH), any grade	15%	20%
IVH, grades III or IV	3%	3%
Sepsis	19%	22%
IVH or sepsis, not elsewhere classified	31%	28%
Death	2 babies	0 babies
Mean length of hospital stay	32 days	38 days

Sources: Dr. Peaceman and Dr. Grobman

Metformin Matches Insulin in Tx Of A2 Gestational Diabetes

RENO, NEV. — Metformin controlled blood glucose levels as well as insulin in patients with class A2 gestational diabetes, and was not associated with any adverse maternal or neonatal outcomes, according to a randomized trial with 63 patients.

"We found that metformin appears to be an acceptable way to achieve glucose homeostasis in the A2 diabetes patient," Christian Briery, M.D., said at the annual meeting of the Society for Maternal-Fetal Medicine.

The study enrolled pregnant patients who were at greater than 11 weeks' gestation but less than 35 weeks' gestation. The women received a starting dose of insulin of 0.7 U/kg daily, in three doses (31 patients) or 500 mg metformin twice daily (32 patients).

The patients were then monitored weekly to see that they achieved a postprandial blood glucose level of less than 120 mg/dL and a fasting glucose level of 60-90 mg/dL, said Dr. Briery of the University of Mississippi Medical Center, Jackson.

In blood glucose measurements taken by the patients at home, the mean fasting glucose level was 96.8 mg/dL in the insulin-treated patients versus 92.6 mg/dL in the metformin-treated group.

Similarly, the researcher reported that the mean postprandial glucose levels ranged in the insulin group from 104.4 mg/dL 2 hours after breakfast to 112.5 mg/dL 2 hours after lunch. The mean postprandial glucose levels in the metformin group ranged from 104.6 mg/dL 2 hours after breakfast to 108.1 mg/dL 2 hours after dinner.

The maternal and delivery measures considered included abdominal delivery, gestational age at delivery, shoulder dystocia, and postpartum hemorrhage.

There was no difference between groups in abdominal delivery, gestational age at delivery, shoulder dystocia, and postpartum hemorrhage.

There was no difference in those measures between the groups.

There was one intrauterine fetal death in the metformin group from a "cord problem" that was determined not to be related to treatment because the mother's glucose levels were consistently normal, Dr. Briery said.

Neonatal outcomes that were considered in the trial include birth weight, 5-minute Apgar score, respiratory distress syndrome, neonatal hypoglycemia, and neonatal ICU admission. Again, the researcher said there was no difference among the groups.

A previous study of metformin use during pregnancy looked specifically at patients who had polycystic ovary syndrome and who conceived while taking the drug. That investigation likewise found no indication of any adverse effects that might normally be associated with the agent. ■

Doppler Shown Superior to Amnio In Management of Rh Disease

RENO, NEV. — Middle cerebral artery Doppler ultrasonography has better sensitivity and specificity for detecting severe maternal red cell alloimmunization than amniotic fluid bilirubin values, Dick Oepkes, M.D., said at the annual meeting of the Society for Maternal-Fetal Medicine.

He and his associates conducted a study of 164 pregnancies, in which severe anemia occurred in 74. They found that ultrasonography can safely replace determination of the deflection of the optical density of amniotic fluid at 450 nm, said Dr. Oepkes, director of the fetal medicine section of the department of obstetrics at the Leiden University Medical Center, the Netherlands.

"The Doppler is clearly the superior technique," he said. "The results of what we have found have confirmed what many people have directly implemented in their own centers already."

The study's 164 pregnancies were in women who had serum antibody titers indicative of Rh positivity with antigen-positive fetuses. The women underwent amniocentesis and ultrasonography at the same time and then had fetal or cord blood sampling to confirm anemia, either at the time it was deemed necessary or at birth.

Severe anemia, which was confirmed in 74 neonates, was defined as a hemoglobin greater than or equal to 5 standard deviations from the mean for gestational age.

The sensitivity of the middle cerebral artery Doppler ultrasonography was 88%, and the specificity was 82%, yielding a positive predictive value of 80% and a negative predictive value of 89%.

In contrast, the amniotic fluid bilirubin (Delta-OD 450) values had a sensitivity of 76%, a specificity of 77%, a positive predictive value of 73%, and a negative predictive value of 80%.

The sensitivity of the Doppler was equally good, whether it was performed before or after 27 weeks' gestation, Dr. Oepkes explained.

Moreover, the study was conducted at 10 different institutions, and there was no great difference seen in the reliability of different ultrasonographers.

"We actually felt that this study was a pragmatic test that was done in the field so to speak," Dr. Oepkes said. ■