

If Possible, Delay Delivery Until 39 Weeks

BY SHARON WORCESTER

FROM OBSTETRICS & GYNECOLOGY

Neonates who are delivered at 36-38 weeks' gestation after fetal lung maturity is confirmed have nearly double the risk of adverse outcomes, compared with neonates delivered at 39 or 40 weeks, a large retrospective cohort study has shown.

The mean birth weight in 459 neonates with confirmed lung maturity who were delivered at 36-38 weeks' gestation was 3,017 g, compared with 3,362 g in 13,339 neonates delivered at 39-40 weeks. The risk of a composite outcome including death, adverse respiratory outcomes, hypoglycemia, treated hyperbilirubinemia, generalized seizures, necrotizing enterocolitis, hypoxic ischemic encephalopathy, periventricular leukomalacia, and suspected or proven sepsis was 6.1% in those in the 36- to 38-week group, compared with 2.5% in the 39- to 40-week group, Dr. Elizabeth Bates of the University of Alabama at Birmingham and her colleagues reported.

Early delivery remained a significant risk factor for the composite outcome after investigators adjusted for maternal age, ethnicity, parity, neonatal sex, intended mode of delivery, and any medical

complication – including diabetes and hypertension. Early delivery was also a significant risk factor for several individual outcomes, including respiratory distress syndrome (adjusted odds ratio, 7.6); treated hyperbilirubinemia (AOR, 11.2); and hypoglycemia (AOR, 5.8), the investigators found (*Obstet. Gynecol.* 2010; 116:1288-95).

The incidence of the primary compos-

ite outcome generally decreased with increasing gestational age, they noted (9.2% incidence at 36 weeks, 3.2% at 37 weeks, 5.2% at 38 weeks, and 2.5% at 39-40 weeks).

Patients included in the study were women with a singleton pregnancy receiving prenatal care and giving birth at a single center from January 1999 to December 2008. Among those who were

delivered at 36-38 weeks following documentation of fetal lung maturity, 42.5% had completed 36 weeks, 40.7% had completed 37 weeks, and only 16.8% had completed 38 weeks. Of those who were delivered at 38-40 weeks, 56.2% had completed 39 weeks, and 43.8% had completed 40 weeks. The mean gestational age was 37.1 weeks in those delivered at 36-38

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Reconsider What Constitutes Term Birth

VIEW ON THE NEWS

"This paper further advances our understanding of the optimal conditions for delivering a baby free of major health complications. Specifically, it confirms findings from a number of previous studies suggesting that babies born before 39 weeks' gestation have a significantly increased risk of complications, including respiratory distress syndrome, even if their lungs appear to be fully mature via biomarker testing," Dr. E. Albert Reece said in an interview.

More importantly, he said, the study

suggests that current definitions of what constitute a term birth may need to be reconsidered.

"Indeed, currently babies born between 37 and 42 completed weeks of pregnancy are considered full term, whereas babies born before 37 weeks of pregnancy are completed are considered preterm. However, if the results of this study are to be believed, they suggest that babies born before 39 weeks of gestation might be considered preterm as well."

This may mean that the definition for term needs to be revised upward to

39-42 weeks, he added.

"It also means that physicians should try to do everything possible to keep from delivering women until they've reached 39 weeks of gestation, unless there are valid reasons for delivery to protect the health of the mother," he said.

DR. REECE is the John Z. and Akiko K. Bowers Distinguished Professor and dean of the University of Maryland School of Medicine, Baltimore. He is also professor in the departments of obstetrics and gynecology, medicine, and biochemistry and molecular biology. Dr. Reece said he had no relevant financial disclosures.



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INTERDISCIPLINARY CARE IMPROVES OUTCOMES FOR MOTHERS AND BABIES

The field of obstetrics has made certain advances in improving maternal and neonatal outcomes for a variety of conditions, but it continues to face challenging and complicated cases. For instance, the rising rate of cesarean sections has led to higher rates of repeat cesarean sections, which, in turn, has increased the risk of placental accrete, increta, and percreta—all of which can lead to potential serious maternal morbidity and mortality, as well as preterm delivery for the fetus. The detection and diagnosis of these conditions prior to delivery afford the best opportunity to reduce maternal risks, leading to optimization of outcomes.

The management of such complicated pregnancies often requires a team approach to provide the best outcome for the pregnancy. With large scientific enterprises—as well as teams of specialists for both neonatal and adult care—academic medical centers are well equipped to manage the complex care these women and babies need.

Consider, for example, a recent case at The Mount Sinai Medical Center. A woman with a history of two previous cesarean sections was transferred to Mount Sinai at 26 weeks' gestation with gross bleeding in her bladder. The maternal fetal medicine team diagnosed placenta percreta on ultrasound. The finding was confirmed on MRI, which showed that the placenta was growing through the uterus and into her bladder—a rare and life-threatening condition that needed swift intervention.

A large team that included maternal-fetal medicine specialists, gynecologic oncologists, urologists, interventional radiologists, blood bank technicians, neonatologists, nurses, and experts in anesthesia was quickly assembled.

This multidisciplinary team met to plan for a cesarean hysterectomy with a bladder resection, as well as conservative management of leaving the placenta in-situ and embolizing the uterus. Every member of this team was present at delivery.

The baby was delivered, the placenta left in-situ, and, following a two-week hospital stay for follow-up care that included methotrexate and embolization, the mother went home without complications, never even needing a blood transfusion. The preterm infant had an uncomplicated neonatal course in the neonatal intensive care unit, and all concerned are optimistic that he will continue to thrive.

For many women, getting pregnant can be very difficult, and having a healthy pregnancy is not always a given. For women who have complications, or are at risk for developing them, it is particularly important to receive care at an institution that can, on short notice, assemble teams of experts who can facilitate a pregnancy and delivery that are safe, with optimal outcomes for both mother and baby.

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Birth Rate for U.S. Teens Falls to Lowest Level

BY ROBERT FINN

FROM THE CENTERS FOR DISEASE
CONTROL AND PREVENTION

The birth rate for U.S. teens aged 15-19 years fell to the lowest level since recording began in 1940, according to new data for 2009.

The 2009 teen birth rate was 39.1 births per 1,000 teens, down 6% from the 2008 rate of 41.5 births per 1,000, according to the report by the CDC National Center for Health Statistics. The 2009 rate was 37% lower than in 1991, the peak year for teen births. The CDC's annual report is based on virtually 100% of vital records collected in the 50 U.S. states, the District of Columbia, and U.S. territories. The report is available at www.cdc.gov/nchs.

Overall fertility also fell in 2009 to 66.7 births per 1,000 women aged 15-44 years, compared with 68.6 per 1,000

women in 2008. The CDC's preliminary estimate of births in 2009 was 4,131,019, 3% less than 2008. Early data through June 2010 suggest that the decline in fertility has continued, according to the report.

Fertility rates increased in only one age group: women aged 40-44 years. In that group, the 2009 rate was 10.1 births per 1,000 women, up 3% from the 2008 figure and the highest rate since 1967.

The rate of preterm births declined for the third straight year, to 12.2% of all births in 2009. The rate of cesarean deliveries rose to a record high of 32.9% in 2009, up from 32.3% in 2008.

The low birth weight rate remained unchanged at about 8.2% between 2008 and 2009.

The CDC also reported the total fertility rate (TFR) – an estimate of the number of births that a hypothetical

group of 1,000 women would have over their lifetimes, based on the age-specific rates of a particular year. The TFR for 2009 was 2,007.5, down 4% from the rate in 2008. This is the largest decline in TFR since 1973. The 2008 and 2009 rates were both below the replacement rate of 2,100 births per 1,000 women. The U.S. TFR was below replacement for every year between 1972 and 2005 and above replacement in 2006 and 2007. ■

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weeks and was 39.8 weeks in those who delivered at 38-40 weeks.

The study findings are concerning, because fetal lung maturity is known to reduce the risk of respiratory morbidity, and confirmation of fetal lung maturity is "a recognized exception to longstanding recommendations against elective delivery before 39 weeks' gestation," Dr. Bates and her associates noted.

Also, despite existing recommendations to the contrary, one-third of elective cesarean deliveries in one large study were performed before 39 weeks, they said.

Taken together, the findings in the current study "are consistent with relative immaturity at 36-38 weeks (regardless of lung maturity), compared with 39-40 weeks, and lower threshold for admission to the NICU and for invasive sepsis work-ups (suspected sepsis)," the investigators wrote.

They added that the findings should be considered in light of the study's limitations – including the retrospective study design and the related possibility of confounding, and the fact that the study does not fully address the risk of stillbirth associated with either delivery strategy studied. Nonetheless, they concluded that the findings suggest that "in the absence of ongoing concern about fetal death or maternal well-being if the pregnancy continued, delivery should be delayed until 39 weeks."

The findings also suggest that purely elective fetal lung maturity testing and early delivery should be avoided, Dr. Bates and her associates noted.

One of the study authors, Dr. Alan T. N. Tita, was a Women's Reproductive Health Research Advanced Scholar at the University of Alabama at Birmingham at the time of the study and received funding from the National Institute of Child Health and Human Development. No relevant financial disclosures were reported by the other authors. ■

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Reference: 1. Sinatra RS, Jahr JS, Reynolds LW, Viscusi ER, Groudin SB, Payen-Champenois C. Efficacy and safety of single and repeated administration of 1 gram intravenous acetaminophen injection (paracetamol) for pain management after major orthopedic surgery. *Anesthesiology*. 2005;102:822-831.

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