Study finds even with fetal lung maturity, babies delivered prior to 39 weeks are at risk

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In a study to be presented today at the Society for Maternal-Fetal Medicine's (SMFM) annual meeting, The Pregnancy Meeting, in San Francisco, researchers will present findings that show that despite fetal pulmonary maturity, babies delivered at between 36 to 38 weeks, still have a significantly increased risk of neonatal morbidities.

The American College of Obstetricians and Gynecologists recommends that fetal pulmonary maturity be documented for scheduled deliveries occurring prior to 39 weeks of gestation in order to prevent neonatal respiratory problems.

"We wanted to do the study because recent evidence suggests that deliveries prior to 39 weeks may result in increased neonatal morbidity," said Yu Ming Victor Fang, M.D., one of the study's authors. "We wanted to examine whether neonates who were delivered at between 36 to 38 completed weeks with confirmed fetal pulmonary maturity would be at increased risk for neonatal morbidities when compared to those that were delivered at 39 weeks or greater."

To compare neonatal outcomes, the team looked at mothers who had positive fetal lung maturity tests at between 36 to 38 completed weeks. They compared the neonatal outcomes from these scheduled deliveries prior to 39 weeks with known fetal lung maturity to the outcomes from scheduled deliveries at 39 weeks to 41 completed weeks.

The study was a retrospective cohort study from a single institution over

a 12 year period. Neonatal outcomes of women who were delivered following documented fetal pulmonary maturity at 36, 37, and 38 weeks were compared to women undergoing a scheduled delivery at 39, 40, and 41 weeks. A lamellar body count of ≥36,000, lecitin/sphingomyelin (L/S) ratio >2.0, or a phosphotidyglycerol (PG) of 0.3 were considered mature. Neonatal outcomes examined included: neonatal intensive care unit (NICU) admission, length of stay (LOS) in the NICU, total neonatal respiratory morbidity (Tot resp morbid), cases of respiratory distress syndrome (RDS), transient tachypnea of the newborn (TTN), other respiratory morbidity (other resp morbid), neonates requiring mechanical ventilation (Vent), proven sepsis (Sepsis), hypoglycemia, and neonatal deaths. Fetuses with major congenital anomalies were excluded. Neonatal outcomes between the two groups were compared using the chi square test.

The study concluded that despite fetal pulmonary maturity, deliveries between 36 0/7 to 38 6/7 weeks are associated with significantly increased neonatal morbidity.

"Patients need to be counseled carefully if they choose to have a scheduled delivery prior to 39 weeks," said Dr. Fang. "Even if tests indicate that their baby's lungs are mature, delivery prior to 39 weeks is not without risks."

Provided by Society for Maternal-Fetal Medicine