

Post-term pregnancies risk infant's life and health, studies show

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Infants born more than one week past their due dates have a higher risk of both impaired health and death, according to two new studies by authors from the University of California's San Francisco and Berkeley campuses.

The studies compared more than 2.5 million normal-weight births from healthy pregnancies of 37 to 42 weeks gestation, the range that is considered to be full-term. Findings appear in the October, 2008 issue of the *American Journal of Obstetrics and Gynecology* and also can be found online at www.ajog.org.

The two studies focused on different elements of the risk of progressing beyond 41 weeks of gestation, but held similar conclusions. The first study, which followed 1.8 million normal births in California from 1999 to 2003, reported greater odds of infant death among those born at 41 and 42 weeks. The second study examined 2.5 million low-risk births nationwide in 2003, and reported that the risk of cesarean deliveries and poor health outcomes for both mother and child increased at 40 weeks and beyond.

"Significant research has focused on the risks of premature deliveries, but until now, there have been no large-scale studies documenting the increased risk of delivering at 40 weeks or more," said Aaron Caughey, MD, MPH, PhD, an associate professor of obstetrics at the UCSF Medical Center and UCSF School of Medicine and senior author on both papers. "Combined, these two papers provide very compelling evidence of the importance of closely monitoring pregnancies beyond 40 weeks and possibly intervening to prevent complications to both mother and child."

It is widely accepted that pregnancies that progress beyond 42 weeks gestation are associated with increased risk to both mother and child, said Caughey, who is also affiliated with the UCSF National Center of Excellence in Women's

Health. The American College of Obstetricians and Gynecologists has recommended fetal surveillance or induction of labor at 42 weeks. Previous studies of infant mortality also have reported that the rate of stillbirths is lowest at 37 to 38 weeks and increases six-fold to 2.12 stillbirths per 1,000 pregnancies at 43 weeks.

But Caughey said a growing number of studies have pointed to increased pregnancy complications and stillbirths at 41 weeks or even earlier. Both of these studies confirm that the risk of cesarean deliveries and poor maternal or child outcomes starts to increase as early as 40 weeks.

"These are among the largest studies ever published that examine the complications of full-term pregnancy by week of gestation," explained Yvonne W. Cheng, MD, MPH, from UCSF and the UC Berkeley School of Public Health, lead author of the national study and a co-author on the California study. "Both were consistent with prior studies in showing that delivery at 39 weeks seems to be associated with the lowest risk to both mother and child."

Cheng's study used national birth registries through the Centers for Disease Control and Prevention to analyze all low-risk pregnancies resulting in live, full-term deliveries between 37 and 42 weeks gestation in the United States in 2003. The study eliminated births to women with pre-existing medical conditions, such as cardiac disease or gestational diabetes, as well as women who had previously had a child delivered by cesarean section.

The national study found that women who delivered beyond their due date had an increased chance of cesarean section or operative delivery – such as one requiring forceps – versus those who delivered at 39 weeks. Compared with delivery at 39 weeks, women who delivered at 41 weeks had a 40 percent higher chance of having a cesarean delivery. That correlates to a higher risk of

hemorrhage and other complications for the mother.

Infants delivered at 41 weeks also had a higher risk of injury during birth, as well as nearly twice the rate of having meconium in the amniotic fluid as infants born at 39 weeks.

The California study also showed an increase in infant mortality in those born after the 40th week. That study analyzed data from 1.8 million newborns born alive statewide from 1999 to 2003, and excluded multiple births and those with congenital abnormalities.

The study found that infants delivered at 41 or 42 weeks had an increased chance of death within 28 days, and that the elevated mortality rates persist across the entire range of normal birth weights.

"These findings add to the growing literature that reports an elevated risk of adverse birth outcomes among infants born at 41 weeks of gestation and beyond," said Tim Bruckner, PhD, an epidemiologist in the UC Berkeley School of Public Health who was the lead author on the California study. "In addition, because of the large number of births represented in this study, and the ethnically diverse population in California, we believe these findings are applicable to the overall US population."

Source: University of California - San Francisco

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