Planned Home Births Safe, Study Results Suggest

Researchers compare outcomes among term, singleton vertex births at home versus the hospital.

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

Not only are planned home births in North America safe for mother and baby, they are associated with a lower rate of medical intervention than are low-risk hospital births in the United States, results of the largest prospective analysis of such births suggest.

"Our study of certified professional midwives suggests they achieve good outcomes among low-risk women without routine use of expensive hospital intervention," said study authors Kenneth C. Johnson, M.D., senior epidemiologist for the Public Health Agency of Canada, and Betty-Anne Daviss, a certified professional midwife from Canada.

"A high degree of safety and maternal satisfaction were reported, and more than 87% of mothers and neonates did not require transfer to hospital," the study authors said.

The cohort included information from 5,418 women whose births during the year 2000 were attended by 409 of the 534 registered professional midwives in the United States and Canada (BMJ 2005; 330:1416-9).

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The researchers compared outcomes in that group with outcomes among more than 3.3 million term, singleton vertex hospital births the same year in the United States.

There were no maternal deaths in the home-birth group. Three infants died from fatal birth defects. There were five intrapartum fetal deaths and six neonatal deaths.

There were no deaths among the 80 planned home-delivered breeches, nor among the 13 sets of twins.

When the researchers excluded planned breech deliveries and twins (not considered low-risk), the rate of intrapartum and neonatal death was 1.7/1,000 planned low-risk home births.

About 12% of the mothers were transferred to a hospital either intrapartum or post partum.

Five of every six who went to a hospital did so before delivery: 51% went for failure to progress, pain relief, and/or exhaustion, according to the investigators.

After delivery, 1.3% of mothers and 0.7% of newborns were transferred. The most common reasons mentioned were maternal hemorrhage (0.6% of total births), retained placenta (0.5% of total births), or respiratory problems in the infant (0.5% of total births).

The midwives reportedly considered transfers urgent in 3.4% of cases. Transfers were four times more common among primiparous women (25%) than multiparous women (6%).

Compared with low-risk hospital births, planned home births had a significantly lower rate of induction of labor (9.6% vs. 21%), stimulation of labor (9.2% vs. 18.9%), episiotomy (2.1% vs. 33%), forceps (1% vs. 2.2%), and vacuum extractions (0.6% vs. 5.2%).

The rate of cesarean section for women transferred to a hospital also was lower than the rate among low-risk hospital births (3.7% vs. 18%). ■

'Vanishing Twin' in IVF Pregnancies Tied To Low Birth Weight in Remaining Twin

INDIAN WELLS, CALIF. — Women who conceive through in vitro fertilization and have a "vanishing twin" are still at risk of having the remaining twin born at a low birth weight for gestational age, Mohamed Mitwally, M.D., said at the annual meeting of the Pacific Coast Reproductive Society.

In a review of 945 live-birth deliveries of infants conceived through in vitro fertilization (IVF), 40 patients experienced spontaneous reduction of fetuses in a multiple gestation and then gave birth to one infant.

Those infants weighed a mean 2,842 g at a mean 271 days' gestation. That compared with a mean birth weight of 3,206 g in 514 women who gave birth to singletons and had not experienced fetal reduction, either spontaneous or selective, and a mean birth weight of 3,166 g in 15 patients who delivered singleton infants after selective fetal reductions.

The finding was somewhat unexpected; the main purpose of the study was to investigate if selective fetal reduction really improved birth weight and risk of preterm delivery, said Dr. Mitwally of the division of reproductive endocrinology and infertility at Wayne State University, Detroit.

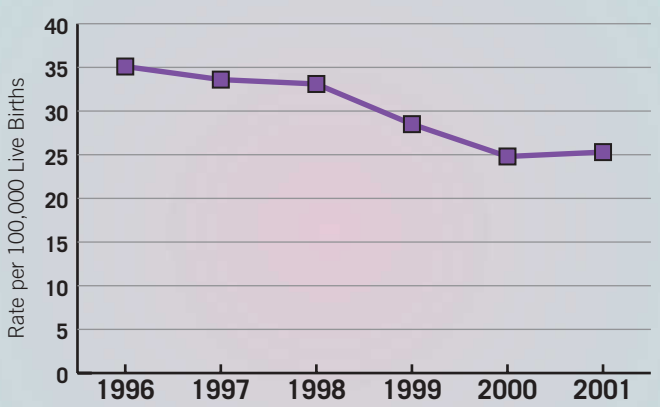
The study showed that selective fetal reduction did result in better birth weight and less risk of preterm birth, without increased pregnancy loss, except perhaps when twins were reduced to singletons. The reason the study observed no benefit from selectively reducing twins may have been that there were only a few cases in which twins were reduced, Dr. Mitwally said.

The rest of the literature on fetal reduction, including a recent metaanalysis, "supports the findings of this study," said Sae Sohn, M.D., a fertility specialist who practices in Greenbrae, Calif., and who commented on the study at the meeting.

—Timothy F. Kirn

DATA WATCH

Infant Deaths Caused by Respiratory Distress Syndrome



Note: Adapted from period-linked birth and death data from the National Center for Health Statistics.
Source: March of Dimes

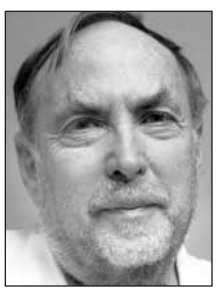
KEVIN FOLEY, RESEARCH

Gene Mutation Associated With Miscarriage, Found More Common in PCOS

BY HEIDI SPLETE
Senior Writer

WASHINGTON — The hypofibrinolytic plasminogen activator inhibitor was an independent predictor of miscarriage in a cohort of 441 women with polycystic ovary syndrome who had previous pregnancies, Charles J. Glueck, M.D., reported at the Clinical Research 2005 meeting.

PAI-Fx is highly correlated with fasting serum insulin resistance, and Glucophage (metformin) (2.25-2.5 g/day) sharply lowers both insulin and PAI-Fx levels, significantly improving the odds of live births for women with PCOS, said Dr. Glueck, director of the Jewish Hospital Cholesterol Center in Cincinnati.



PCOS-associated obesity and hyperinsulinemia can contribute to high PAI-Fx levels that promote miscarriage.

DR. GLUECK

The 441 women were part of a larger cohort of 968 women with PCOS. Of these 441 women, 206 had only live births, 118 had at least one live birth and one miscarriage, and 75 had only miscarriages.

In addition, of 926 women with PCOS for whom genetic data were available, 727 (79%) had the 4G5G or 4G4G genotype vs. 87 of 126 (69%) healthy female controls.

This PAI-1 genetic mutation was significantly associated with miscarriage, in part through its gene product, PAI-Fx, and appears to be more common in women with PCOS than in healthy women, Dr. Glueck said at the meeting, sponsored by the American Federation for Medical Research.

The overall frequency of the 4G allele was 53% among PCOS women, compared with 46% of the controls.

Dr. Glueck and his associates also evaluated 30 women who took metformin during pregnancy and had live births and 23 women who took it and had first-trimester miscarriages. The PAI-Fx level fell by approximately 44% among the women who had live births, but it rose approximately 19% among the women who had early miscarriages. Among the women who had live births, PAI-Fx fell consistently from pre-pregnancy treatment through the first trimester, from 16.8 to 6.7 units/mL.

Left untreated, approximately 50% of pregnant women with PCOS experience first-trimester miscarriages; treatment with metformin, combined with dietary changes, reduces this figure to approximately 15% (the national average in the United States).

PCOS-associated obesity, hyperinsulinemia, and hypertriglyceridemia can contribute to the high PAI-Fx levels that promote miscarriage in women with PCOS, Dr. Glueck noted.

Physicians can optimize pregnancy outcomes by prescribing metformin and diet, which has been shown to reduce obesity, hyperinsulinemia, hypertriglyceridemia, and PAI-Fx levels. ■