

Teamwork Enhances Glucose Control in Diabetics

A study of team-managed insulin targeting found a low rate of diabetes-related obstetric complications.

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

SAN FRANCISCO — Pregnancy outcomes for women with diabetes who maintain excellent glucose control during their pregnancy are very good, and are similar to those seen in the general population, according to the results of a retrospective study.

The study, conducted by the high-risk obstetrics/endocrinology clinic at the Nebraska Medical Center, Omaha, found a low rate of diabetes-related obstetric complications among a group of 100 women who attended the clinic during their pregnancies.

The clinic has used a team approach, incorporating intensive insulin and specific targets, since 1997. That approach “can result in excellent glucose control in at least half of patients, with overall maternal and fetal outcomes similar to” those in the

general population, Dr. Kara Meinke Baehr said in a poster presented at the annual meeting of the Endocrine Society. The team includes perinatologists, endocrinologists, certified diabetes educators, registered dietitians, a social worker, and a translator.

Dr. Meinke Baehr of the Nebraska Medical Center and her colleagues reviewed the records of 100 women whose pregnancies were managed at the clinic from 1997 to 2006. Fetal outcomes were compared with the Nebraska 2004 Vital Statistics report.

The mean age at enrollment in the clinic was 29 years; the mean prepregnancy body mass index was 32 kg/m². Most of the women (54%) were white; 21% were Hispanic, 18% were black, and the rest were other races or ethnicities.

More than a third of the women (36%) had type 1 diabetes; 26% had type 2 diabetes; 26% had gestational diabetes man-

aged with insulin; and 12% had gestational diabetes managed by diet.

Women with types 1 and 2 diabetes significantly improved their blood glucose levels during the second and third trimesters of their pregnancies. At 8 weeks, only 25% had a hemoglobin A_{1c} (HbA_{1c}) value of less than 7%. That number rose to 80% by week 16 and to 90% by week 24; it then dropped back to 80% by week 32.

By the second half of pregnancy, about half of the cohort was meeting the goal of an HbA_{1c} value of 6% or less, a significant improvement from the first trimester.

Maternal complications during pregnancy included retinopathy (6%), proteinuria (38%), and pre-eclampsia (17%). There were 104 hospitalizations, more than half of which were for glucose control. One woman was admitted 10 times.

Insulin regimens were used in 115 of the 127 pregnancies (90%). At the time of delivery, 43% were taking four injections per day; 2% were taking one insulin injection per day; 22% were taking two injections per day; and 3% were taking three

injections per day. In all, 20% were using an insulin pump.

There were 127 pregnancies among these women over the study period, including 121 live births with two sets of twins. Most of the deliveries (71%) were by cesarean section; the rest were vaginal.

The mean gestational age was 37 weeks. Apgar scores were good, with a mean of 7.4 at 1 minute and 8.5 at 5 minutes. The mean birth weight was 3,479 grams; 28% of the infants were macrosomic. Overall, 35% of the infants required a stay in the neonatal intensive care unit (mean length of stay, 16 days).

The rate of birth trauma was 2%; traumas included Erb's palsy and shoulder dystocia. The rate of birth defects was 7%. Such defects included one schizencephaly, one tracheoesophageal fistula, one transposition of the great vessels, one polydactyly, and two cases of patent ductus arteriosus.

All rates were lower than those in the 2004 Nebraska state report, but comparisons can't be drawn because of the small study sample, Dr. Meinke Baehr noted. ■

Adolescent Moms Weigh More, But Their Babies Don't Benefit

BY SHERRY BOSCHERT
San Francisco Bureau

NEWPORT BEACH, CALIF. — Like the rest of the U.S. population, pregnant adolescents have gotten heavier since 1990, but that hasn't resulted in fewer preterm or small-for-gestational-age babies born to teenage mothers, according to data gathered on 1,187 such first-time mothers.

“They're not benefiting the babies by adding the extra weight,” Jeanelle Sheeder said in a presentation at the annual meeting of the North American Society for Pediatric and Adolescent Gynecology.

Ms. Sheeder of the University of Colorado, Denver, and her associates analyzed data on 1,187 primigravida participants who enrolled consecutively between 1990 and 2005 in the Colorado Adolescent Maternity Program (CAMP) at the university. All were 13-18 years old and of diverse racial and ethnic backgrounds.

In that 15-year time period, there were significant increases in maternal weight, body mass index, proportion of overweight or obese mothers, age, proportion of Hispanics, and rate of induced labors. “Oddly,” Ms. Sheeder noted, maternal height decreased significantly. There also were significant decreases in the rate of pregnancy-induced hypertension and in the proportion of those who were white.

No differences over time were seen, however, in any infant outcomes, including birth weight, gestational age, preterm birth rate, and proportions of infants who were small, average, or large for gestational age. On average, the babies born to this adolescent cohort were a bit smaller than babies typically born to adult women, Ms. Sheeder said.

After adjustment of the data for significant factors, including age and race or ethnicity,

only the increase in maternal weight and the decrease in maternal height remained statistically significant. No other maternal or infant measures changed significantly over time. Average maternal weight increased from 124 pounds in the early 1990s to 132 pounds in 2005, an 8-pound gain. Average maternal height decreased from 5 feet 4 inches to 5 feet 3 inches. Average birth weights were 3,170 g in 1990 and 3,000 g in 2005; the difference is within a normal 200-g fluctuation seen from year to year in this population, she said.

Maternal body mass index increased from 22 kg/m² in the early 1990s to 24 in 2005, on average. At the start of that time period, 21% of mothers were overweight or obese, compared with 27% by 2005. The proportion of Hispanic mothers increased from 29% to 43%. The proportion of induced labors increased from 3% to 5%, which was not statistically significant, but the overall rate across all the years was 6%, Ms. Sheeder said.

Maternal age increased from 16.1 years to 16.7 years on average. The increasing age of the primigravida adolescents in the program over time cheered the investigators. “We were happy to see that they were getting older,” she said.

When the investigators looked at the amount of weight the mothers gained during gestation, they initially were pleased that the mothers tended to gain more pounds during pregnancy as the years progressed; they hoped that this trend would translate into bigger, healthier babies.

Unlike trends in adults, however, in which both mothers and their infants have gotten bigger, in adolescents only the moms got bigger. “This leads us to believe that adolescents probably transfer less of the weight that they gain” to infants, she said, noting that studies on appropriate weight for adolescent mothers may be warranted. ■

Paroxetine Use Not Tied to Infant Heart Malformations

BY ROBERT FINN
San Francisco Bureau

MONTEREY, CALIF. — There is no statistically significant association between paroxetine usage during the first trimester of pregnancy and an increased risk of cardiac malformations in the infants, according to a meta-analysis of nine studies.

A selective serotonin reuptake inhibitor frequently prescribed for depression and anxiety, paroxetine (Paxil) was the subject of a 2005 warning by the Food and Drug Administration, Health Canada, and its manufacturer referencing unpublished findings of cardiac malformations in infants exposed during the first trimester of pregnancy.

Several other studies appeared to confirm these findings, Lisa O'Brien reported in a poster session at the annual meeting of the Teratology Society.

And a meta-analysis published in 2007 that included all of the studies published up until that time found that first-trimester paroxetine presented a modest increased risk of cardiac malformations (Clin. Ther. 2007; 29:918-26).

Since then, however, several more studies have been published.

Ms. O'Brien of the Hospital for Sick Children, Toronto, and her col-

leagues identified a total of nine studies that could be included in their analysis—six cohort studies and three case-control studies—which they analyzed separately.

The case-control studies together included 30,247 women and, with a summary odds ratio of 1.18, found no statistically significant association between paroxetine and cardiac malformations.

The cohort studies included 66,409 women.

The rate of cardiac malformation was 1.14% among the 3,428 infants exposed to paroxetine and 1.09% among the 62,981 controls.

The weighted average difference in cardiac malformation rates between the two groups was 0.3%, which the investigators described as small and nonsignificant.

“First-trimester exposure to paroxetine appears not to be associated with an increased risk of cardiac malformations,” the investigators concluded.

“This evidence-based information will assist women, together with their physicians and other health care providers, to make an informed decision regarding the use of paroxetine during pregnancy.”

The investigators disclosed no conflicts of interest related to their presentation. ■

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