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San Francisco — Pregnancy outcomes in women with diabetes 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 obstetric/endoctrine clinic at the Nebraska Medical Center, Omaha, found a low rate of diabetes-related obstetric complications in a group of 100 women who attended the clinic during their pregnancies. This group of women had used a team approach incorporating intensive insulin and specific targets, since 1997. That approach can result in excellent glucose control and at least minimal maternal and fetal outcomes similar to those in the general population, Dr. Karin Meineke Baehr said in a presentation at the annual meeting of the Endocrine Society.

The team includes perinatologists, endocrinologists, certified diabetes educators, registered dietitians, a social worker, and a nurse practitioner.

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

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 A1C (HbA1c) value of less than 7%. That number rose to 80% by week 16 and to 90% by week 26. HbA1c then dropped back to 80% by week 32.

By the second half of pregnancy, about half of the women were taking insulin, the goal of an HbA1c of 6% or less, was significantly improved from the first trimester.

Maternal complications during pregnancy included retnopathy (6%), pre-eclampsia (38%), and pre-eclampsia (17%). There were 104 hospitalizations, more than half of which were for glucose control. One of the women was admitted for 10 days. 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% of the women 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 3.47 grams; 28% of the infants were macrosomic. Overall, 33% of the infants required a stay in the neonatal intensive care unit (mean length of stay: 16 days).

The mean age at enrollment in the clinic was 29 years; the mean preconception 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, which was managed with insulin; and 12% had gestational diabetes that was managed by diet.

The approach, with intensive insulin and set targets, resulted in glucose control and obstetric outcomes close to those in the general population.