Poor Obstetric Outcome Rates Similar in Types 1 and 2 Diabetes

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DALLAS — Women with type 1 diabetes had a similar incidence of adverse obstetric outcomes as those with type 1 diabetes but fewer adverse neonatal outcomes in a retrospective cohort analysis of 384 pregnancies.

As expected, patients with both type 1 and type 2 diabetes had worse obstetric and neonatal outcomes, compared with nondiabetic controls. Dr. Krutin K. Knight and colleagues at the University of Rochester (N.Y.) reported in a poster at the annual meeting of the Society for Maternal-Fetal Medicine.

Using a preexisting database of pregnant diabetic patients, the researchers analyzed maternal and fetal outcomes of singleton pregnancies between July 2000 and August 2006 in 64 women with type 1 diabetes, 64 women with type 2 diabetes, and 236 matched controls with normal glucose screening during pregnancy.

Patients with type 2 diabetes were significantly older (mean 30.1 years) than patients with type 1 diabetes (26.8 years) or controls (27.4 years), and had a significantly higher prepregnancy body mass index (37 vs. 27 vs. 24 kg/m²).

Mean hemoglobin A₁c values did not differ significantly between women with type 1 and type 2 diabetes (7.6% vs. 7.3% vs. 7.5%). The majority of women with type 2 diabetes (91%) were on insulin during pregnancy.

Type 2 diabetic patients should receive the same counseling and treatments as type 1 patients.

DR. KNIGHT

Both groups with diabetes had higher incidences of cesarean delivery, preeclampsia, preterm delivery, polyhydramnios, large-for-gestational-age infants, and neonatal ICU admission than did the 236 nondiabetic controls. However, the incidences were not different for women with type 2 vs. type 1 diabetes, the researchers noted.

Women with type 1 diabetes had a higher incidence of composite poor neonatal outcome (perinatal death, respiratory distress syndrome, sepsis, meconium aspiration, hypoglycemia, seizures, necrotizing enterocolitis, or intubation) than did women with type 2 diabetes and controls.

Those with type 1 diabetes had significantly more fetal congenital anomalies than did controls (6.3% vs. 1.2%). While such anomalies were elevated in women with type 2 diabetes, they were not significantly different (2.2%).

This finding differs from some of the other literature that’s available, Dr. Knight said in an interview. This might be because the study included only women seeking prenatal care, which is not the norm in clinical practice, and thus might have understated poorer outcomes in patients with type 2 diabetes, he noted.

Overall, few data are available regarding pregnancy outcomes in type 2 diabetes, even though this type of diabetes is becoming increasingly common in reproductive-age women, she said.

“Type 2 diabetic patients should receive the same degree of preconceptional counseling, diligent glucose control, and antenatal surveillance as type 1 diabetic patients, in order to minimize the occurrence of poor perinatal outcome,” the authors wrote.

In a second poster at the meeting, diabetic macrovascular and microvascular disease during pregnancy was associated with reduced intrauterine fetal growth among 518 women with type 1 diabetes enrolled in a “Diabetes in Pregnancy” program at the University of Cincinnati.

The women were enrolled before 14 weeks’ gestation, prospectively followed through the postpartum period, and treated with intensive insulin therapy.

They were classified at entry based on vascular status, with no vasculopathy present in 192, hypertension or background retinopathy in 79, proliferative retinopathy in 18, nephropathy in 42, and proliferative retinopathy and nephropathy in 26. Their mean ages were 27.7, 27.7, 29, and 24 years, respectively; and they had been diagnosed with diabetes mellitus for 10, 15, 18, 14, and 18 years, respectively.

After controlling for gestation at delivery and maternal age and race, the odds ratio for delivery of a low-birth-weight infant (less than 2,500 g), compared with women without vasculopathy, was highest in women with proliferative retinopathy and nephropathy, Dr. Sina Haeri of the department of obstetrics and gynecology, Washington Hospital Center, and associates reported.

Likewise, after controlling for maternal age and race, the odds ratio for delivery of a small-for-gestational-age infant, compared with women with no vasculopathy, was highest in those with proliferative retinopathy and nephropathy (see graph below).

“The implication is that in women with type 1 diabetes, you need to keep a close eye on the babies because growth restriction is, of course, associated with neonatal death, poor outcome, and respiratory distress,” Dr. Haeri said in an interview. The poorer neonatal outcomes were observed even though the population was tightly controlled, with a self-monitored fasting and preprandial blood glucose goal of less than 100 mg/dl and a 90-minute postprandial goal of less than 140 mg/dl.