Tx Lowers Some Mild Gestational Diabetes Risks

BY MARY ANN MOON

Treating mild gestational diabetes lowered the risks of fetal overgrowth, shoulder dystocia, cesarean delivery, and gestational hypertension, as well as decreasing maternal weight gain, based on a study of almost 1,000 women.

However, treating mild gestational diabetes did not improve the composite primary outcome of neonatal mortality, hypoglycemia, hyperbilirubinemia, hyperinsulinemia, and birth trauma in a multicenter, randomized clinical trial designed to establish whether such treatment reduced perinatal and obstetric complications.

"The findings from our trial confirm a modest benefit from the identification and treatment of women with mild carbohydrate intolerance during pregnancy," said Dr. Mark B. Landon and his associates in the National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network.

The investigators assessed 958 women who had mild gestational diabetes—defined as a fasting glucose level of less than 95 mg/dL plus two to three timed glucose measurements that exceeded established thresholds—between 24 and 31 weeks' gestation. A total of 473 were randomly assigned to receive standard prenatal care and 485 to receive formal nutritional counseling, diet therapy, and insulin as needed (N. Engl. J. Med. 2009;361:1339-48).

Treatment of mild gestational diabetes that includes dietary intervention and insulin, as necessary, reduced rates of fetal overgrowth, cesarean delivery, and preeclampsia.

The intervention group performed daily self-monitoring of fasting and postprandial blood glucose levels. The researchers verified compliance with glycemic monitoring and documented that target glucose thresholds were achieved.

There was no difference between the two groups in the primary composite outcome of neonatal death and complications known to be associated with maternal hyperglycemia. Individual rates of these complications (neonatal hypoglycemia, hyperbilirubinemia, birth trauma, and elevated cord-blood C-peptide levels) also did not differ significantly, Dr. Landon of Ohio State University, Columbus, and his colleagues said.

However, the intervention significantly reduced mean birth weight, neonatal fat mass, the rate of large-for-gestational-age infants, and the rate of infants weighing 4,000 g or more.

Cesarean delivery was significantly less frequent in the intervention group (27%) than in the control group (34%), as were shoulder dystocia, gestational hypertension, and preeclampsia.

Moreover, both maternal body mass index at delivery and maternal weight gain during pregnancy were lower in the intervention group than in controls.

"Increased birth weight and neonatal fat mass may have long-term health implications for the offspring of mothers with gestational diabetes mellitus, including an increased risk of impaired glucose tolerance and childhood obesity. Long-term follow-up studies are needed to determine whether treatment of gestational diabetes mellitus can reduce the risk of these complications," Dr. Landon and his associates wrote.

In the meantime, these study findings "provide further compelling evidence that among women who have gestational diabetes mellitus and normal fasting glucose levels, treatment that includes dietary intervention and insulin therapy, as necessary, reduces rates of fetal overgrowth, cesarean delivery, and preeclampsia," they said.

This study was supported by grants from the National Institute of Child Health and Human Development, the General Clinical Research Centers, and the National Center for Research Resources. No financial conflicts of interest were reported. ■

Some Fetal Ultrasound Findings May Not Require Follow-Up

BY SHERRY BOSCHERT

SAN FRANCISCO — Putting reassuring wording in a pregnant patient's chart may alleviate worry for the mother after a fetal ultrasound shows an isolated choroid plexus cyst or isolated echogenic intracardiac focus, Dr. Mary E. Norton said.

Neither of these findings is cause for ultrasound follow-up or amniocentesis if the mother has no other risk factors for chromosomal abnormalities, Dr. Norton explained at a conference on antepartum and intrapartum management sponsored by the University of California, San Francisco.

An isolated choroid plexus cyst can raise anxiety unnecessarily in a woman with no other risk factors for chromosomal abnormalities.

They do, however, cause anxiety or fear in many patients, studies suggest. It's hard for mothers to get over the idea of a cyst in the fetal brain when they hear that it is marginally associated with chromosomal abnormalities, for example, despite physician counseling that isolated choroid plexus cysts are not associated with Down syndrome and resolve in essentially all cases, she said.

How can clinicians ensure an adequate assessment when a choroid plexus cyst is identified without instilling unnecessary anxiety for the mother? Scheduling multiple visits and ultrasounds and meetings with genetic counselors is not the way to go, said Dr. Norton, professor of obstetrics and gynecology and reproductive services at the university and regional director of perinatal genetic services for Kaiser Permanente, San Francisco.

At her institutions, when clinicians performing a fetal ultrasound identify a choroid plexus cyst, they get extra, careful images of the heart and hands at that time to check for abnormalities. If this is not done on the level I ultrasound, clinicians should consider getting a level II ultrasound for these patients, she suggested.

If no other abnormalities are seen and results of any other screening (such as a triple screen) suggest that the woman is at low risk for chromosomal abnormalities, the following wording goes in her chart: "An isolated choroid plexus cyst was identified. While this finding has been associated with fetal chromosome abnormalities, no other major or minor anomalies were identified in this fetus. In the absence of other risk factors, this finding most commonly represents a normal variant and no further evaluation is recommended."

The same wording is used after a fetal ultrasound identifies isolated echogenic intracardiac focus, inserting this phrase in place of "choroid plexus cyst."

"These patients don't need to have an echocardiogram to evaluate the fetal heart," because this finding is not associated with congenital heart defects, she said. "They're not pathologic in and of themselves, but they do have a small association with an increased risk of chromosomal abnormalities."

That can raise anxiety unnecessarily in a woman with no other risk factors for abnormalities, but putting the reassuring wording in the chart can help them reframe their risk, Dr. Norton said.

Closer management is needed for fetal ultrasound findings with borderline significance, such as renal pelviectasis, or findings that have the potential for significant abnormality (echogenic bowel or mild ventriculomegaly), she added.

In more than 90% of cases, fetal pelviectasis is a normal finding representing a physiological response to maternal progesterone. In a small percentage of cases, however, it can represent obstruction of the ureteropelvic junction or reflux that may have important implications after birth.

The risk for Down syndrome may be marginally increased with isolated pelviectasis, and amniocentesis is not warranted unless other risk factors are present, she noted.

Studies suggest that ultrasound follow-up is reasonably sensitive and specific if the pelviectasis measures less than 4 mm in pregnancies before 20 weeks' gestation, less than 7 mm between 20 and 30 weeks' gestation, or less than 10 mm from 30 weeks to term, Dr. Norton said.

There's no need for monthly ultrasounds, but schedule a repeat ultrasound in the middle of the third trimester to rule out progression of the pelviectasis and determine the need for postnatal follow-up, she said.

If the findings persist in the third trimester, wait at least 10 days after delivery for postnatal follow-up so the fetal volume status can adjust from prenatal to postnatal status. In the past, prophylactic antibiotics were given to the newborn during these 10 days in case the findings represented reflux, but it is unclear whether antibiotics are necessary. "That's a pediatric urologic decision," she noted.

Of the two more concerning findings, echogenic bowel has been associated with trisomies, cystic fibrosis, viral infection, intrauterine growth restriction (IUGR), and fetal demise.

"Echogenic bowel is a tricky one because we see it in many cases that ultimately go on to have a completely normal outcome, and we never know why it was there," she said.

Dr. Norton advised careful evaluation and follow-up. Get cystic fibrosis screening if it hasn't already been done, and do maternal or fetal testing for cytomegalovirus and possibly toxoplasmosis. "We do offer amniocentesis for karyotyping," although it's unclear whether this is warranted in women who are otherwise low risk, she said. Get a follow-up ultrasound to evaluate the bowel and fetal growth in the third trimester. "The risk of IUGR is not inconsequential," she warned.

Mild ventriculomegaly, in which fetal cerebral ventricles measure 10-15 mm, usually involves normal variants, especially when the ventricles are in the smaller end of that range. Rare cases may represent obstructive hydrocephalus or be markers for other underlying CNS pathology.

Order a level II ultrasound and get a fetal MRI, which can clearly show developments of the fetal brain and CNS findings not seen on ultrasound. "We do order MRI, although the precise utility of that, I would acknowledge, is still under investigation," Dr. Norton said.

Because ventriculomegaly is associated with chromosomal abnormalities or infectious disease in a small number of cases, she offers amniocentesis for karyotyping and testing for cytomegalovirus and possibly toxoplasmosis.

Dr. Norton said that she has no conflicts of interest related to her presentation. ■