Rising GD Incidence Calls for Aggressive Screening

BY BETSY BATES
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San Francisco — The "fast and furious" increase in obesity in the United States and a correlative rise in the incidence of gestational diabetes justify aggressive screening of pregnant women for the disorder, Dr. E. Albert Reece said at Perspectives in Women's Health sponsored by Ob.Gyn. News.

"The numbers are quite staggering," said Dr. Reece, dean of the school of medicine and vice president of medical affairs at the University of Maryland, Baltimore.

Fifteen years ago, the incidence of gestational diabetes was 1%-3%. Today, it's 4%-8%, he said.

Screening is aimed at reducing the risk of perinatal loss, but it also confers what Dr. Reece termed "fringe benefits," namely, reducing the risk of fetal macrosomia, operative delivery, birth trauma, and metabolic derangements in the neonate.

Screening raises awareness of the long-term possibility of type II diabetes arising in the mother and, years later, the offspring.

"Diabetes begets diabetes," said Dr. Reece, who advocates screening every pregnant woman for gestational diabetes at least once during pregnancy.

The tradition of screening at 24-28 weeks' gestation is "entirely arbitrary"—chosen by convention to pick up 85% of cases while there is still time in the pregnancy to intervene.

However, clinicians should be aware that 15% of cases will be missed by screening at that time point.

"If you are very suspicious, due to habitus or history, repeat it at 33-34 weeks," he advised.

Choosing which test to use can be important, according to Dr. Reece.

Intravenous glucose tolerance testing is nonphysiologic, failing to simulate the

normal process of glucose disposal, and therefore useless, he said.

Random blood glucose value testing isn't much better, since it is an insensitive test. "It should be used only when nothing else is available," he said. "It is better than nothing at all."

Capillary whole blood glucose testing uses a pinprick to obtain blood that is analyzed by a portable meter. It is convenient and cost-effective, but the meter should be calibrated regularly with results obtained in a hospital laboratory to ensure its accuracy.

Most common, of course, are fasting oral glucose tolerance tests.

These tests are most accurate when the pancreas is adequately primed prior to a 3-hour glucose tolerance test. This cannot always be ensured when people skip meals or follow unusual diets, said Dr. Reece.

That's why he advises patients to eat two to three slices of bread with each meal for 3 days before the test, which involves drinking a glucose solution and having blood drawn 1 hour later.

Nicotine, caffeine, many drugs, bed rest, and exertion may also interfere with test results.

If a patient vomits Glucola, the standard glucose solution used in fasting oral glucose tolerance testing, a culinary glucose polymer, Polycose, can be used instead, said Dr. Reece.

Even more palatable for some women is the jelly bean test, standardized by Boyd and associates and found to be "incredibly consistent" with Glucola in terms of sensitivity and specificity, and positive predictive value.

However, that accuracy is ensured only if one uses the exact protocol described by Boyd or one later tested by Lamar and colleagues: 18 or 26 Brach's jelly beans, with blood drawn 1, 2, and 3 hours later (Am. J. Obstet. Gynecol. 1995;173:1889-92 and Am. J. Obstet. Gynecol. 1999;181[5 pt. 1]:1154-7).

Two relatively new methods—glycohemoglobin A_1 and a fructosamine-based test—are too insensitive to be used in screening for gestational diabetes, Dr. Reece said.

A breakfast tolerance test involving a specific 600-kcal meal before the blood draw achieves a sensitivity of 75% and specificity of 95% if a 120-mg/dL value is used, and a sensitivity of 96% and specificity of 74% if a threshold is set at 100 mg/dL. It's acceptable, but "cumbersome" to adjust the thresholds, he said.

"I've never used it."

A diagnosis of gestational diabetes is generally reserved for patients who have at least two abnormal oral glucose tolerance tests. Research suggests, however, that potential adverse pregnancy outcomes can occur with just one abnormal result, reflecting impaired glucose metabolism.

Dr. Reece believes one abnormal test warrants at least dietary therapy and retesting, while two abnormal tests during pregnancy may require more aggressive interventions, including oral glucose therapy and possibly insulin. ■

Mild GD Raises Infants' Risk of Cryptorchidism

Mild gestational diabetes significantly raises the risk of cryptorchidism in male offspring, reported Dr. Helena E. Virtanen of the University of Turku, Finland, and her associates.

Even mothers who had an abnormal result on a single oral glucose tolerance test (OGTT) but no diabetes diagnosis were at increased risk of delivering a boy with cryptorchidism, the researchers reported (J. Clin. Endocrin. Metab. 2006 Oct. 10 [Epub doi:10.1210/jc.2006-1420]).

They reviewed the pregnancy records of 1,288 singleton boys born at one hospital who had participated in previous research. The 125 boys with congenital cryptorchidism served as cases in this study, and the 1,163 boys who had normal testicular descent at birth served as controls.

Among the cases, 13 mothers (10%) had diet-treated gestational diabetes, and an additional 7 (6%) had at least one abnormal result on OGTT but no diabetes diagnosis, for an overall 16%. In contrast, among the controls, only 47 mothers (4%) had a diabetes diagnosis and an additional 54 (5%) had an abnormal OGTT result, for an overall 9%.

The significantly elevated risk for cryptorchidism remained constant after the data were adjusted for known confounders such as advanced maternal age and maternal smoking, as well as for proposed risk factors that might confound the association, such as prematurity and low birth weight.

Maternal diabetes status had no apparent effect on the rate of spontaneous testicular descent by the age of 3 months or on the rate of bilateral vs. unilateral cryptorchidism. "Considering our results, the increasing prevalence of gestational diabetes may have considerable effect on [future] male reproductive health," Dr. Virtanen and her associates noted.

—Mary Ann Moon