

## ACOG Supports 100-g Glucose Test

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diagnosing gestational diabetes, as has the Canadian Diabetes Association, said Dr. Armson, a professor of ob.gyn. at Dalhousie University in Halifax, N.S. The American Diabetes Association recommends using either the 75-g or 100-g test, whereas the American College of Obstetricians and Gynecologists exclusively supports the 100-g test.

The study enrolled women with singleton pregnancies at two tertiary and six secondary hospitals in Nova Scotia during December 2001 to January 2005. All of the participants were identified at risk for gestational diabetes, with a positive result in a 50-g glucose challenge test that was administered during week 24-28 of gestation.

The women were randomized to definitive diagnosis with either the 75-g or 100-g OGTT. The average gestational age at the time of diagnosis was just under 28 weeks.

The study's design did not specify how women who were diagnosed with gestational diabetes or impaired glucose tolerance were to be managed, but Dr. Armson and his associates assumed that most women with a positive diagnosis received the standard management approach. This involves counseling women about the risk they face from macrosomia and diabetes, and to advise them to make dietary changes to control their blood sugar level. The efficacy of diet would be monitored by measuring blood sugar at least weekly in the hospital, and ideally daily at home with both fasting and postprandial readings taken. Women who failed to maintain adequate control by diet alone would begin treatment with insulin.

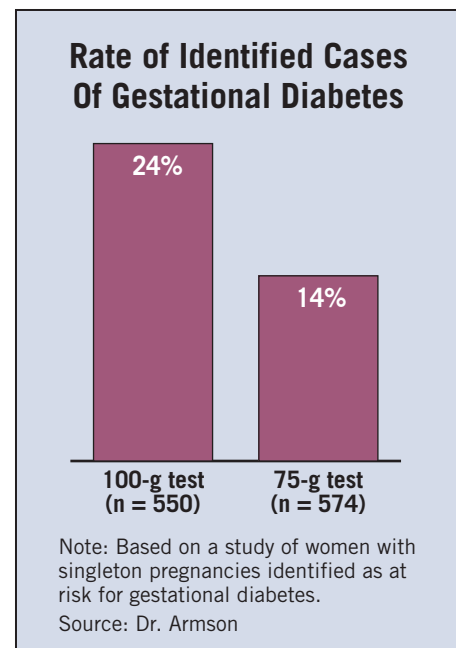
"It might have been better if we had specified a protocol for managing women with gestational diabetes that would have been followed by everyone, but that was not built into our study," Dr. Armson said in an interview.

At term, the incidence of macrosomia (defined as a newborn at or above the 95th percentile for weight) was 15% among 574 women who had the 75-g OGTT, and 12% among the 550 women who had the

100-g OGTT. The relative risk of macrosomia was 24% higher among women who had the 75-g test, but this result—the study's primary end point—was not statistically significant, Dr. Armson said.

However, the 100-g OGTT was associated with several other beneficial outcomes. The 100-g test was linked to a significant cut in the rate of gestational hypertension. The incidence of this complication was 9% in women who had the 100-g test, compared with a 14% rate in those who had the 75-g test, a 59% relative increase with the 75-g test. The 100-g test was also linked to a significantly reduced need for forceps delivery.

The 100-g test also diagnosed significantly more cases of gestational diabetes. The rate of identified cases was 24% using the 100-g test, and 14% with the 75-g test, a 42% lower rate of diagnosis with the 75-g test. The women who were randomized into the two testing groups were closely matched in their demographic and clinical features, suggesting that the difference in diagnosis rates was primarily the result of a difference in the diagnostic sensitivity between the two tests. ■



ELSEVIER GLOBAL MEDICAL NEWS

## Three Markers for Risk of Hypertension Progression

BY MITCHEL L. ZOLER  
Philadelphia Bureau

OTTAWA — A gestational age of less than 36 weeks, a relatively high serum level of uric acid, and a history of preeclampsia were all linked to progression of gestational hypertension to preeclampsia in a retrospective study of 280 women at one center.

The findings suggest that "clinical monitoring of these routinely available risk factors in pregnancies complicated by gestational hypertension could provide an easy, inexpensive, and helpful tool for identifying women with gestational hypertension who are at high risk of developing preeclampsia," Yuquan Wu and his associates reported in a poster at the annual meeting of the Society of Obstetricians and Gynaecologists of Canada.

Gestational hypertension is usually the first clinical feature of preeclampsia, appearing before proteinuria. But it currently remains a challenge for physicians to predict if a woman who develops hypertension after 20 weeks' gestation will progress to preeclampsia, said Mr. Wu, a researcher in the department of ob.gyn. at the University of Montreal, and his associates in their poster.

They reviewed the medical records of all women who received obstetric care and gave birth at St-Justine Hospital in Montreal during March 2001-June 2003. They focused on women with a singleton pregnancy diagnosed with gestational hypertension without proteinuria at their initial hospital presentation.

Gestational hypertension was defined as a blood pressure at or above 140/90 mm Hg after 20 weeks' gestation.

Preeclampsia was diagnosed in women with gestational hypertension who also had proteinuria of at least 300 mg in a 24-hour urine collection, or a 1+ on dipstick urinalysis in two samples

taken 6 hours apart. The review identified 91 women who reached term with gestational hypertension, and 189 women with preeclampsia. The average age of these women was 30 years.

In a multivariate analysis, each standard-deviation increase in the serum level of uric acid (56.1 micromol/L) boosted the risk of preeclampsia by 78%, and a history of preeclampsia boosted the risk of developing this complication in the current pregnancy by 3.4-fold. The risk of developing preeclampsia was reduced by 47% for each added week of gestational age.

Expressed in terms of dichotomous predictors, a serum uric acid level of at least 300 micromol/L at the first presentation of gestational hypertension raised the risk of preeclampsia 2.6-fold, and a history of preeclampsia raised the risk of a new case 3.2-fold.

Gestational age of less than 36 weeks when gestational hypertension was first diagnosed raised the risk of preeclampsia by 3.6-fold. The risk was elevated with a serum uric acid level of 300 micromol/L or greater even though this level is within the normal range (less than 350 micromol/L).

An additional analysis showed that women who presented with gestational hypertension but had no history of preeclampsia, had a serum uric acid level of less than 300 micromol/L at diagnosis, and were diagnosed at 36 weeks' gestation or after had a 20% risk of progressing to preeclampsia. In contrast, women with a history of preeclampsia who presented with hypertension before 36 weeks' gestation and had a uric acid level of at least 300 micromol/L had an 89% risk of progressing to preeclampsia.

These three markers predicted the risk of progressing from gestational hypertension to preeclampsia with a sensitivity of 82% and a specificity of 85%, Mr. Wu and his associates said in their poster. ■

## Study Shows Decline in GDM, Rise in Preexisting Diabetes

BY TIMOTHY F. KIRN  
Sacramento Bureau

CHICAGO — A review of births at a large health maintenance organization suggests the incidence of gestational diabetes is declining, but it is being offset by an increase in preexisting diabetes.

"There is some good news that gestational diabetes mellitus [GDM] appears to have declined about 15% within our study period," Jean M. Lawrence, Sc.D., said at the annual scientific sessions of the American Diabetes Association. "But the bad news is that we saw a doubling of preexisting diabetes in the study."

"We don't know whether this is an increase in the prevalence of diabetes or an increasing in screening and diagnosis of previously undiagnosed diabetes," said Dr. Lawrence, an epidemiologist in the department of research and evaluation at

Kaiser Permanente Southern California, Pasadena. "Overall, though, we saw little change in the proportion of pregnancies with the mother and fetus exposed to diabetes during the pregnancy."

In her study, Dr. Lawrence and colleagues looked at all of the births at 11 Kaiser Permanente hospitals in Southern California from 1999 to 2005, with a total of 209,532 deliveries of infants who were at 20 weeks' gestation or later.

Overall, 8% of the births were to mothers with diabetes, either gestational or preexisting, in each of the years reviewed, with a peak of almost 9% in 2000, and a slight decline totaling less than 1% since then.

The annual prevalence of GDM also peaked in 2000, at the rate of 7.01 cases per 100 women delivered. After that it declined steadily, to a rate of 6.32 cases per 100 women delivered in 2005.

At the same time, the annual prevalence of preexisting diabetes increased steadily from a rate of 1.08 cases per 100 in 1999 to a rate of 2.80 per 100 in 2005.

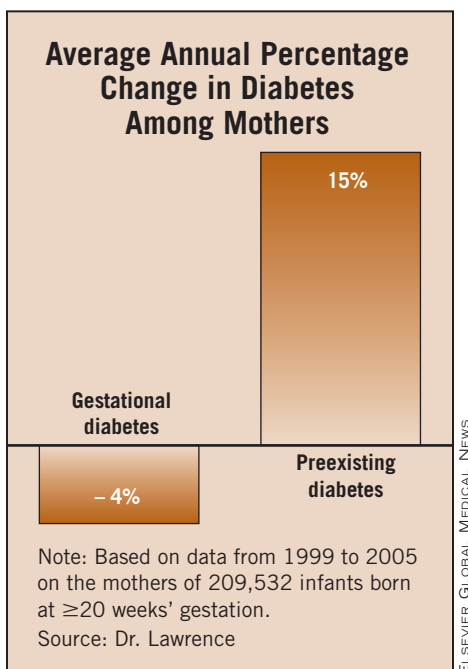
After adjusting for maternal age and race/ethnicity, the investigators found that GDM declined during the study period at an average annual rate of 4%, whereas preexisting diabetes increased by an average of 15% annually, Dr. Lawrence said.

Both types of diabetes were more common in women of other races than they were in non-Hispanic white women.

Asian women had the highest annual prevalence of GDM, with about double the prevalence of white women.

Black women had the highest annual prevalence of preexisting diabetes, with a 43% higher prevalence than white women.

"We saw changes in all the groups," Dr. Lawrence said. ■



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