

# Gestational Diabetes Linked to Later CVD Risk

*Women with a history of GDM had increased risk factors such as insulin resistance and hypertension.*

BY MIRIAM E. TUCKER  
Senior Writer

Women who are diagnosed with gestational diabetes during pregnancy may be at greater risk for cardiovascular events later in life, reported Dr. Darcy B. Carr and her associates, of the University of Washington, Seattle.

Previous studies have demonstrated that women with a history of gestational diabetes mellitus (GDM) are at increased risk for a wide array of cardiovascular risk factors, including central adiposity, insulin resistance, dyslipidemia, and hypertension. Now, data from the Genetics of Non-Insulin-Dependent Diabetes (GENNID) study suggest that among women with a family history of type 2 diabetes, these risk factors actually translate into a significantly higher prevalence of cardiovascular disease events in those with prior GDM.

"Interventions have been shown to reduce the progression to type 2 diabetes in subjects at risk for the disease, including women with a history of GDM, and offer primary prevention of cardiovascular disease (CVD) events in established type 2 diabetes. We believe our findings provide a strong rationale to further consider efforts to target women who have a history of GDM with interventions in order to improve both their metabolic and cardiovascular health," Dr. Carr and her associates wrote (*Diabetes Care* 2006;29:2078-83).

In GENNID, genetic and phenotypic information was collected at multiple U.S. sites between 1993 and 2001 from families with type 2 diabetes. Among parous women in the study who had a first-degree relative with type 2 diabetes but who did not have pregestational diabetes themselves, a total of 332 reported having had GDM during at least one previous preg-

nancy, while 662 did not report a history of GDM.

At a mean follow-up of 30 years after the index pregnancy, the women with prior GDM were younger (49 vs. 52 years), more likely to be African American (40% vs. 29%), and less likely to be postmenopausal (48% vs. 58%) than were those without GDM.

Although both groups were obese, women in the prior GDM group had a more atherogenic lipid profile and higher fasting plasma glucose and insulin levels, suggesting increased insulin resistance. Among the risk factors that were reported by significantly more women in the GDM group were history of hypertension (47% vs. 37%), dyslipidemia (34% vs. 26%), and type 2 diabetes (93% vs. 63%). Among women who had these risk factors, those with GDM were diagnosed with them at younger ages: 40 vs. 48 years for hypertension, 48 vs. 52 for dyslipidemia, and 37 vs. 47 for type 2 diabetes.

Women with GDM were more than three times as likely as those without

GDM to meet all the criteria for metabolic syndrome, even after adjusting for age, menopausal status, and race/ethnicity, Dr. Carr and her associates reported.

Self-reported history of cardiovascular disease (coronary artery disease [CAD] and/or stroke) was significantly more common in women with prior GDM (odds ratio 1.85) and remained significant after adjustment for race/ethnicity, age, and menopausal status (OR 1.66). Overall, cardiovascular disease was reported by 15.5% with GDM compared with 12% without, CAD by 12% vs. 11%, and stroke by 6% vs. 5%.

The CVD and CAD differences were statistically significant, but stroke was not, due to small numbers of patients, the investigators said.

Among the 890 women for whom complete data for metabolic syndrome criteria were available, a history of GDM was associated with an independent risk for CVD after adjustment for metabolic syndrome (OR 1.74) and for type 2 diabetes (OR 1.56). ■

## Most African American Mothers Reject Breast-Feeding Advocacy

BY BRUCE K. DIXON  
Chicago Bureau

INDIANAPOLIS — Myths about the effects of breast-feeding, the promotion and availability of formula, and the absence of maternal role models are combining to thwart breast-feeding among urban African American women, Dr. Hari B. Srinivasan said during a poster presentation at the annual meeting of the Midwest Society for Pediatric Research.

In a study that mined data similar to those from a 2004 national survey by the Centers for Disease Control and Prevention, Dr. Srinivasan found that fewer than half of African American mothers initiate breast-feeding immediately following an in-hospital educational support program.

The study from Chicago's Sinai Children's Hospital revealed that among Hispanic and white mothers, the rate of breast-feeding initiation was 78% and 72%, respectively. The national goal is to have 75% of mothers initiate breast-feeding by 2010.

"This is a cultural issue. Breast-feeding education has to be started early in schools and in communities," said Dr. Srinivasan, who is an assistant professor of pediatrics and an attending neonatologist at Sinai. He noted that if one generation chooses breast-feeding over formula, the next generation is more likely to follow suit.

"Also, the Women, Infants and Children program makes formula available to anyone who qualifies and who wants it free of cost. Although WIC is a good program, it serves as a disincentive to breast-feeding, especially among

poorer populations. And every woman leaving the hospital after delivery gets a small bag from Ross Pharmaceuticals, and in that bag is a can of formula; so hospitals reinforce formula use," Dr. Srinivasan said.

He pointed out that obstetricians serve as the first line of defense against formula use. "Obstetricians should get involved in educating patients about the benefits of breast-feeding early, during prenatal visits, and in the first 48 hours after delivery," he said, adding that it's then up to pediatricians to pick up the ball.

**'Strenuous public health efforts are needed to improve breast-feeding behaviors.'**

DR. SRINIVASAN

loss after delivery.

"In actuality, women who breast-feed tend to return to their prepregnancy weights faster than those who don't," he noted.

In this study, data on breast-feeding initiation rates for 3,324 infants were prospectively collected for a 1-year period. The overall breast-feeding initiation rate for the population was 68%.

Earlier this year, the Centers for Disease Control and Prevention reported that in 2004, 71.5% of non-Hispanic white children were ever breast-fed, compared with 50% of non-Hispanic black children. Among those who were ever breast-fed, 54% of white and 43% of black children continued breast-feeding until age 6 months (*MMWR* 2006;55:335-9).

"Strenuous public health efforts are needed to improve breast-feeding behaviors, particularly among black women and socially disadvantaged groups," Dr. Srinivasan concluded. ■



## Prepregnancy Surgery for Severe Obesity Benefits Offspring

BY NANCY WALSH  
New York Bureau

BOSTON — Severely obese women who underwent bariatric surgery and had major weight loss prior to pregnancy reduced the likelihood of macrosomia and subsequent obesity in their offspring, Dr. John G. Kral said at the annual meeting of NAASO, the Obesity Society.

What's more, the children of these mothers have been followed for 2-18 years and have no higher rate of obesity than does the larger age-matched background population in Quebec, where the study was done, he said.

The surgical procedure the women underwent was a pylorus-sparing biliopancreatic diversion (BPD), which is not only maldigestive but also malabsorptive. This of course raises concerns for pregnancy, with potential vitamin deficiencies, undernutrition, and low birth weight among the offspring, but the results have been reassuring, he said.

Dr. Kral and his coinvestigators from the department of surgery, Laval University, Quebec, followed a cohort of 45 children born before their mothers had surgery and 172 born after the surgery. The children are now aged 7 years or older, and in those born before surgery the prevalence of obesity is 60%, while among those born after the surgery the prevalence is 37%, said Dr. Kral of the State University of New York Health Science Center at Brooklyn.

According to the National Longitudinal Survey of Children and Youth in Canada, the overall preva-

lence of obesity among Canadian children in that age group is 38%.

Moreover, not only did the prevalence of obesity fall by 52% but also the prevalence of severe obesity fell by 45.1%, and there was no increase in low birth weight, he said.

Malabsorptive BPD surgery does not cause maternal stress or create "a famine situation in utero," Dr. Kral said. Rather, it provides in utero benefits of energy homeostasis, euglycemia, and normalization of insulin and lipid levels, he said.

The odds ratio for obesity in children of very obese mothers is 60-fold, at least in part because of genetic factors, but by normalizing the fetal environment this surgery actually abrogates the genotype, he explained.

Dr. Kral and his coinvestigators had previously reported on a group of 783 women who underwent BPD and replied to a questionnaire that asked about pre- and postoperative pregnancies. Among the findings of that survey were that 82.6% of the women had a normal weight gain during postoperative pregnancy, the incidence of fetal macrosomia decreased from 34.8% to 7.7%, and the incidence of normal birth weight increased from 62.1% to 82.7%.

The investigators wrote, "We believe that the overall normalization of birth weights in these severely obese women is a consequence of the improved maternal physiological environment following BPD, including better glucose metabolism, lower blood pressure, and better hormonal function" (*Obes. Surg.* 2004;14:318-24). ■