

# High OGTT in Pregnancy Ups Later Diabetes Risk

BY MICHELE G. SULLIVAN  
Mid-Atlantic Bureau

Women who have an abnormal glucose tolerance test result during pregnancy but do not develop gestational diabetes still face an increased risk of developing type 2 diabetes later on.

The retrospective study showed that even modestly elevated glucose levels double the risk of diabetes within the next 9 years. "The risk of subsequent diabetes... likely occurs since [they] have an intermediate form of glucose intolerance" with impaired  $\beta$ -cell functioning, said Dr. Darcy B. Carr of the University of Washington, Seattle, and coauthors (Diabetes Care 2008 Jan. 25 [doi:10.2337/dc07-1957]).

In this retrospective cohort study, the researchers analyzed diabetes risk over a mean 9-year follow-up period in 31,000 women without gestational diabetes who had an oral glucose tolerance test (OGTT) or oral glucose challenge test (OGCT) during their pregnancy. The mean age was 31 years; the median follow-up was 9 years.

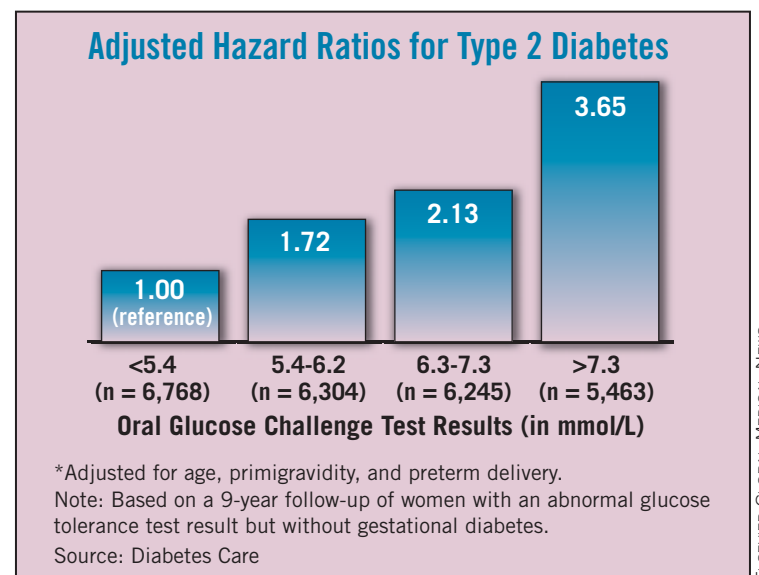
They found that the risk of later development of type 2 diabetes rose as the OGCT values rose. Compared with women whose levels were normal, those with glucose levels of 5.4-6.2 mmol/L and 6.4-7.3 mmol/L had double the risk of developing the disease, while those with levels greater than 7.3 mmol/L were three times more likely to do so. Women with no abnormal OGTT values were at no increased risk of developing type 2 diabetes, but those with

one abnormal value were twice as likely to do so. These associations remained significant even after controlling for age, primigravida, and preterm delivery.

The finding is consistent with those from a previous, much smaller longitudinal study that reported higher frequencies of glucose intolerance in women with one abnormal OGTT value.

The authors noted that the study could not control for race, family history, or body mass index—all important factors in assessing diabetes risk. In addition, subsequent diabetes was not systematically assessed, which may introduce bias in those who were selected for testing, they wrote.

They also said their conclusions are not sufficient for them to make any screening or treatment recommendations, adding



that, "Whether women who fall within this intermediate range of glucose intolerance during pregnancy may benefit from increased

diabetes surveillance as well as lifestyle recommendations proven to reduce the risk of developing diabetes is unknown." ■

## Adjustable Gastric Banding Beats Conventional Diabetes Treatment

BY MARY ANN MOON  
Contributing Writer

Laparoscopic adjustable gastric banding produced a 76% remission rate in the first randomized trial to compare the surgery against conventional treatment in obese patients with recent-onset type 2 diabetes.

"After 2 years, the surgical group displayed a 5 times higher remission rate and a 4 times greater reduction in [hemoglobin A<sub>1c</sub>] values than the conventional-therapy group," according to John B. Dixon, Ph.D., of Monash University, Melbourne, and his associates.

The surgical group also showed greater resolution of features of the metabolic syndrome and greater improvements in insulin sensitivity, lipid profiles, and hypertension, allowing for significant reduction in their use of medications for these conditions as well as their use of drugs for glycemic control.

The investigators attributed the procedure's benefits principally to its great effectiveness in inducing weight loss, rather than to other anti-diabetic effects, such as those reported with the Roux-en-Y gastric bypass procedure.

In the study, patients diagnosed as having type 2 diabetes within the preceding 2 years and with a body mass index of 30-40 were randomly assigned to receive conventional medical and behavioral therapy either alone (26 subjects) or in addition to laparoscopic adjustable gastric banding via the pars flaccida technique (29 subjects). All subjects met with at least one member of a treatment team every 6 weeks during the 2-year follow-up.

The mean surgical time was 54 minutes; 80% of patients were discharged after 1 day of hospitalization.

The surgery group achieved a mean weight loss of 20.7%, compared with 1.4% for the conventional therapy group. Complete remission of diabetes occurred in 76% of the surgery group, compared with 15% of the controls, the authors said (JAMA 2008;299:316-23).

There were no surgical complications. The rate of postoperative wound infection was under 2%. Reoperation to enlarge the gastric pouch was needed in 5% of subjects.

In an editorial comment, Dr. David E. Cummings and Dr. David R. Flum of the University of Washington, Seattle, said the results

should lead providers and professional societies to reconsider the role of surgery in treating diabetes.

"It may be time to view bariatric operations not as treatments for patients with BMI greater than a certain level, but rather as interventions about which all obese patients with diabetes should be informed and [to which they should be] given access," they said (JAMA 2008;299:341-3). ■

## Diet Soda Strongly Associated With the Metabolic Syndrome

BY TIMOTHY F. KIRN  
Sacramento Bureau

Diet soda, meat, and fried foods are associated with the development of metabolic syndrome, researchers from the Atherosclerosis Risk in Communities Study reported.

The study, which gathered dietary information on 9,514 individuals, then followed them for 9 years, found that the single food item with the strongest association to development of the metabolic syndrome was diet soda, with those who consumed an average of one serving a day having a 34% greater risk of developing metabolic syndrome than those who drank none.

The next strongest association was with meat consumption, with a 25% greater risk, according to the study.

Dairy intake had a beneficial effect, with a hazard ratio of 0.87, or a reduction in risk of 13%, reported Pamela L. Lutsey of the division of epidemiology and community health at the University of Minnesota, Minneapolis, and colleagues (Circulation 2008;117:754-61).

Previous studies of the contribution of diet and specific foods to metabolic syndrome have tended to focus on a single food group and to be cross-sectional survey studies. So a particular strength of this study was its prospective design, "which overcomes a variety of limitations common to cross-sectional data," Ms. Lutsey noted.

Twenty percent of the subjects had metabolic syndrome at the start of the study, when they were given the first of two diet surveys. At the end of 9 years, another 40% had developed the syndrome. That 60% rate of metabolic syndrome "foreshadows a

worrisome trend for the burden of [metabolic syndrome] in the United States," Ms. Lutsey wrote.

The patients followed in the study were all middle aged, with a mean age of 54 years, and 56% were female.

The data showed that a Western style diet—high intakes of refined grains, processed meat, fried foods, and red meat—was associated with greater risk of metabolic syndrome. Those in the group who had the highest Western-diet consumption pattern had an 18% greater risk than did those with the lowest pattern.

Fried foods were associated with a 25% greater risk.

The investigators expected to find, but did not, that a prudent diet—heavy in whole grains, fruits, vegetables, and fish—was protective. They found no association between metabolic syndrome and this pattern of eating, though previous studies have found an association, and, in particular, a benefit. The hazard ratio was 1.07, and was not statistically significant. Likewise, consumption of sweetened beverages and of coffee was not found to be associated with metabolic syndrome.

The finding of the association between diet soda and metabolic syndrome has been made before. The Framingham Heart Study reported a 56% increase in risk in those who consumed one or more servings per day. Another investigation found that persons with diabetes who drank diet soda had poorer glucose control than did those who consumed none.

"Additional research on the relation between diet soda and incident [metabolic syndrome] is clearly warranted," Ms. Lutsey wrote. ■

