

DIABETES

When Does Gestational Diabetes Become Diabetes Mellitus?

Although most women who get gestational diabetes return to normal glucose tolerance after delivery, some remain at risk. Studies have shown that women are not only at high risk for recurrent gestational diabetes mellitus (GDM), but also for type 2 diabetes in later life. To find out who is most likely to develop diabetes, researchers conducted a substudy of the Vienna Post-Gestational Diabetes Project.

The study involved 110 women who had given birth within 3 to 6 months, had a history of GDM, and were attending the diabetes outpatient clinic of the Medical University of Vienna in Austria. In addition, 41 women with normal glucose tolerance during and after pregnancy, and without any risk factors for diabetes, were included as a control group to compare baseline results. Each participant received a complete metabolic workup at baseline. The women were invited annually for a re-examination for a maximum of 10 years. Overt diabetes was diagnosed if fasting plasma glucose levels or 2-hour oral glucose tolerance test (GTT) levels exceeded 126 mg/dL or 200 mg/dL, respectively.

In 10 years of follow-up, 23 women (21%) developed overt diabetes (median time to diagnosis, 3 years). Patients with no reported diabetes manifestation had a median follow-up of 5 years.

After analyzing the data, the researchers found that the best predictors included a 2-hour oral GTT of 140 mg/dL or greater, age older than 35 years, and high-density lipoprotein (HDL) cholesterol less than 50 mg/dL. Among women with no selected risk factors, only 1 developed diabetes.

The effect of the variables was additive and pronounced. Having 2 or 3 selected risk factors raised the risk markedly (hazard ratio 3.2).

Source: *Obstet Gynecol.* 2011;118(1):71-78.
doi:10.1097/AOG.0b013e318220e18f.

STROKE

When Good Intentions Fall Through

What people say they would do in an emergency and what they actually end up doing can be very different—as revealed in a study by researchers from Washington Hospital Center Stroke Center at Georgetown University in Washington, DC; the University of Michigan in Ann Arbor; the University of Wisconsin in Madison; Johns Hopkins University Urban Health Institute in Baltimore, Maryland; Medstar Research Institute in Hyattsville, Maryland; and Georgetown Stroke Center in Washington, DC. Researchers aimed to identify the barriers to emergent stroke treatment in underserved, urban populations. They surveyed 253 volunteers and 100 patients who had acute stroke (or their proxy) in 20 community-based sites in a high-stroke-risk catchment area. Of the 100 acute stroke (or proxy) patients who were interviewed, 82 were patients themselves, 13 were a combination of patient and a relative/friend, and 5 were a relative/friend only.

The researchers conducted a community survey that consisted of face-to-face interviews and an in-hospital stroke survey. In this predominantly urban, black population, 89% of the volunteers surveyed said they would call 911 first. However, only 12% of the patients surveyed actually called 911.

The issue isn't lack of information. Two-thirds of the volunteer respondents recalled being exposed to

stroke information in the previous year via television news, newspapers/magazines, and doctors, among other sources. *And*, the issue wasn't unfamiliarity with stroke. Ten percent of respondents had experienced a stroke themselves, and 49% had a relative who had had a stroke. Only 14% of those surveyed had no personal experience with stroke.

So what was going on? The study revealed that misperceptions that contributed to delays included not knowing or recognizing symptoms despite patients' previous exposure to stroke education from both personal experience and public information. Although the patients were aware of the national education campaigns, two-thirds did not recognize that they were having a stroke. Sixty-nine percent of the volunteer respondents believed chest pain to be a common stroke symptom. Only 15% to 48% were able to repeat the classic stroke symptoms during the open-ended questioning section of the study. Just 36% and 48% of respondents identified classic stroke symptoms, namely sudden trouble speaking and numbness or weakness of the face, respectively.

Patients often said they had delayed seeking medical attention because they believed that no medical intervention could help them. The researchers point out that, although current stroke education campaigns focus on symptom recognition and calling 911, most do not explicitly state that calling 911 can result in treatment to improve outcome. Even among the one-third of patients who recognized they were having a stroke, use of 911 was lower than might be expected. Almost half of the patients believed their symptoms were not serious and/or did not require treatment.

Of the patients who arrived by ambulance, only 25% thought using

emergency medical services (EMS) would be the fastest method of transportation to the hospital. One-third said they weren't able to drive or had no other transportation options. However, 75% of the patients instead called a friend or relative, and half of the patients reached the hospital by car or public transportation.

The researchers found an insignificant association between education level and use of EMS. Rather, the use of EMS was favored by those with less education; 56.9% with a high school diploma or less used EMS vs 38.1% of those with a higher degree.

The researchers say their findings indicate that surveying community volunteers does not provide reliable data on what barriers exist to seeking acute stroke care in that community. Additional studies are needed, they conclude, to explore reluctance to call 911 so that more appropriate and targeted interventions can be developed.

Source: *Stroke*. 2011;42(6):1697-1701.
doi:10.1161/STROKEAHA.110.604736.

NEUROLOGY

Cognitive Screening in 2 Minutes

In a busy clinical setting, the Clock-in-the-Box test is a good way to get useful information about a patient's cognitive condition in a short time, say researchers from Albert Einstein College of Medicine in Bronx, New York; and the VA Boston Healthcare System; the Institute for Aging Research—Hebrew SeniorLife; Beth Israel Deaconess Medical Center; Brigham and Women's Hospital; and Harvard Medical School, all in Boston, Massachusetts.

The researchers analyzed data from 798 patients in the Maintenance of Balance, Independent Living, Intellect,

and Zest in the Elderly (MOBILIZE) Boston study. In this prospective, longitudinal, cohort study, community-dwelling seniors completed a variety of cognitive and functional assessments, including the Clock-in-the-Box test, Mini-Mental State Exam, and neuropsychologic tests.

The Clock-in-the-Box test is an enhanced version of the Clock Drawing Test, with a strengthened working memory and planning component. The test takes about 2 minutes to administer. The participant is given a sheet with 4 typed directions: 1. In the blue box on the next page; 2. Draw a picture of a clock; 3. Put in all the numbers; and 4. Set the time to 11:10. After acknowledging having read and understood the directions, the participant returns the instructions and is given a response sheet, which has a colored box in each of the quadrants. The participant can't refer back to the directions, and no extra hints or clues are provided. In the study, the administrator could read the instructions to a participant who had poor vision or could not read, but the participant needed to be able to see the stimulus sheet in order to complete the task. The Clock-in-the-Box test was scored on 8 criteria, including drawing located within the blue box; object resembles a clock; numbers are ordered and spaced appropriately; and time is correct.

The Clock-in-the-Box test was well correlated with the Mini-Mental State Exam, neuropsychologic tests, and measures of independent and physical function. Better performance on the Clock-in-the-Box test was significantly associated with better function: 88% of those with high Clock-in-the-Box test scores reported no difficulties in activities of daily living, compared with only 59% of those who scored 3 or lower.

In addition to saving time, the researchers say, the Clock-in-the-Box

test may have advantages over traditional cognitive screening tests because of the executive function screening. Prior research has determined that measures of executive function may be more important than measures of memory and orientation for independent function. Moreover, measures of executive function have been related to gait and balance in older patients. Recent studies with the Clock-in-the-Box test in patients with diabetes and those undergoing cardiac surgery that found better performance was associated with improved glycemic control and return to home.

Inevitably, the researchers note, a cognitive test that requires reading will be associated with educational level. Because less education has been identified as an independent risk factor in the development of dementia, memory may be the area most affected by age and education biases. Consequently, they advise, neither the Clock-in-the-Box test nor the Mini-Mental State Exam should be used alone to diagnose dementia, although they can serve as valuable screening tools.

Source: *Am J Med*. 2011;124(7):662-669.
doi:10.1016/j.amjmed.2011.02.023.

For additional
Clinical Digest
content, check out
the exclusive online
edition of Clinical Digest at:

www.fedprac.com

or scan
this image
with your
smartphone.

