Paternal Race Affects GDM Risk, Study Finds

BY SHERRY BOSCHERT

SAN FRANCISCO — Paternal race may play as big a role in the risk for gestational diabetes as maternal race, according to the results of preliminary studies.

Among white, Asian, and interracial white-Asian couples who delivered babies at Stanford University's Lucile Packard Children's Hospital from 2000 to 2005, the risk for gestational diabetes was 1.6% for 5,575 white couples, 3.4% for 178 couples with a white mother and Asian father, 3.9% for 690 couples with an Asian mother and white father, and 5.7% for Asian couples, Dr. Aaron B. Caughey said at a conference on antepartum and intrapartum management sponsored by the University of California, San Francisco.

Compared with white couples, the adjusted odds ratio for gestational diabetes was 2.4 in white mother and Asian father couples, 2.6 in Asian mother and white father couples, and 4.7 in Asian couples, the retrospective cohort study found (Am. J. Obstet. Gynecol. 2008;199:385.e1-385.e5).

Some of the difference in risk might be due to sociocultural differences, such as diet, said Dr. Caughey, a study coinvestigator and medical director of the Diabetes and Pregnancy Program at the University of California. However, diet "doesn't seem likely, when you think of the Asian diet versus the Western diet."

He posited that the association between paternal race and gestational diabetes risk may be influenced by placental hormones that are driven through a genetic association with the father.

Using data from Kaiser Permanente, Dr. Caughey reproduced the finding of an association between paternal race and the risk for gestational diabetes. "I found that in Latinas, the paternal ethnicity is even more important than the maternal ethnicity, which I think is kind of surprising and interesting," he said. Those findings have not been published.

Maternal race is one of five widely accepted risk factors for gestational diabetes, though there is some controversy. (The other risk factors include age, body mass index, a history of diabetes, and a history of macrosomia.)

Women who have Latina, Native American, south or east Asian, or Pacific Island heritage are at increased risk for gestational diabetes, compared with white women. Older studies that indicated that African American race was associated with gestational diabetes have been called into question because many were conducted in the southern United States, where the prevalence of obesity is high. And the studies did not control for body mass index, Dr. Caughey said.

He and associates looked at Kaiser Permanente data in the San Francisco Bay Area and found no difference in gestational diabetes risk between African Americans and whites. Another recent study in Boston, however, did find an association between African American race and gestational diabetes risk.

It is not clear at this point whether African American race is a risk factor for gestational diabetes. "I think it might be a risk factor, but it's probably very low," he said.

Race also plays a role in setting screening thresholds for gestational diabetes and deciding which patients to send for diagnostic testing. In general, if the screening threshold is a glucose challenge test result of 140 mg/dL, 14% of women will screen positive (for 80% sensitivity). If the threshold is 130 mg/dL, 23% will screen positive (for 90% sensitivity).

The sensitivity and specificity can vary, however, by ethnicity. Choosing the appropriate screen-positive threshold "really depends on what your goal is," Dr. Caughey said.

To reach at least 90% sensitivity in all racial groups, the threshold must be lowered from 140 mg/dL to 135 mg/dL. On the other hand, if the goal is a 10% screen-positive rate (specificity), the threshold must go as high as 150 mg/dL for Asians and as low as 135 mg/dL for African Americans, he said. Variations can be seen when stratifying patients by obesity or age, not just race. ■

VITALS

Disclosures: Dr. Caughey disclosed having no potential conflicts of interest related to his presentation.