COMMENTS AND RESPONSES

International Association of Diabetes and Pregnancy Study Groups Recommendations on the Diagnosis and Classification of Hyperglycemia in Pregnancy

Comment to the International Association of Diabetes and Pregnancy Study Groups Consensus Panel

Lack of international uniformity for the diagnosis of gestational diabetes mellitus (GDM) has been a clinical problem. The International Association of Diabetes and Pregnancy Study Groups (IADPSG) suggested new criteria for diagnosis and classification of diabetes in pregnancy (1) based on the association of maternal glycemia with perinatal outcomes reported in the Hyperglycemia and Adverse Pregnancy Outcome (HAPO) study (2).

Clinical outcomes are the best way to define diagnostic thresholds, and this approach to GDM diagnosis has already been reported in the Brazilian population. The study by Schmidt et al. (3) merits mentioning since it is one of the few large studies of unselected pregnant women universally evaluated with the 75-g oral glucose tolerance test (OGTT). The authors compared the 2-h 75-g OGTT criteria for GDM diagnosis by the World Health Organization (WHO) and the American Diabetes Association (ADA) (fasting glucose ≥7.0 mmol/l or 2-h ≥7.8 mmol/l; and at least two of fasting glucose ≥5.3 mmol/l, 1-h ≥10 mmol/l, or 2-h ≥8.6 mmol/l, respectively) and showed their ability to predict macrosomia, preeclampsia, and perinatal death. Subjects were 4,977 women from the cohort of the Brazilian Gestational Diabetes Study.

No significant differences between the two diagnostic criteria were observed regarding the frequencies of clinical outcomes. GDM diagnosis resulted in greater risk for macrosomia (RR 1.29 and 1.45, based on ADA and WHO criteria, respectively), preeclampsia (RR 2.28 and 1.94), and perinatal death (RR 3.10 and RR 1.59) (3). In comparison with the IADPSG proposal of an RR 1.75 for pregnancy outcomes (1), ADA criteria resulted in greater risk for preeclampsia and perinatal death (3). The higher ADA threshold detected only pregnancies with major risk for adverse outcomes. GDM incidence was 2.4% based on ADA criteria, 7.2% based on WHO criteria, and 17.8% based on IADPSG proposed criteria.

In 2008, the same study group reported the evaluation of a shorter version of the 2-h 75-g OGTT, a 1-h 75-g test (4). Again, the diagnosis threshold was evaluated by assessing its capacity to predict adverse maternal and fetal outcomes. The 1-h and 2-h tests' receiver operating characteristic curves virtually overlapped for predicting fetal macrosomia and composite outcome (macrosomia, preeclampsia, or perinatal death). The 1-h cutoff point that maximized sensitivity (83%) and specificity (83%) was 141 mg/dl (7.8 mmol/l), but at the cost of a high GDM prevalence of 22%. The value of 180 mg/dl (10 mmol/l), as suggested by IADPSG, reached very high specificity in detecting GDM (99%), but would identify only 3.2% of the women as GDM. An intermediate value (160 mg/dl; 8.9 mmol/l) had high specificity (94%) and reasonable sensitivity (62%) for the detection of GDM, diagnosing 8.6% women as having GDM. It is important to remember that in the IADPSG analysis, fasting glucose plus 1-h plasma glucose levels identified a large majority of GDM woman.

In conclusion, in comparison with Brazilian studies, IADPSG criteria would result in a higher frequency of GDM with lower-risk pregnancies being diagnosed as GDM. The advantages of shortening the duration of the test include convenience for the patient, lower cost, and a good diagnostic accuracy in all populations evaluated.

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