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Screening for gestational diabetes: Examining a breakfast meal test

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Objective: To compare a glucose test based on a standardized, designed breakfast to the 75-g oral glucose tolerance test (OGTT), comparing venous and capillary glucose values for the diagnosis of gestational diabetes mellitus (GDM).

Methods: The present prospective, randomized, cross-over trial enrolled patients at high risk of developing GDM who were attending the High-Risk Antenatal Clinic of Tygerberg Hospital, Cape Town, South Africa, between March 1 and December 31, 2015. Patients were randomized to initial testing with either the OGTT or a designed breakfast glucose profile (DBGP) glucose test before the alternate test was performed 1 week later; no dietary or other interventions were applied in the intervening period. Venous and capillary fasting and 2-hour glucose values were measured and were

compared between the OGTT and DBGP, and between OGTT and laboratory venous samples.

Results: There were 51 patients included in the study. The fasting and 2-hour capillary glucose values from the OGTT correlated significantly with the laboratory venous samples ($P < 0.001$ at both time intervals). The 2-hour capillary glucose values from the DBGP demonstrated a satisfactory correlation with those from the OGTT ($P < 0.001$).

Conclusions: The DBGP provided a sufficiently accurate alternate test for the diagnosis of GDM; it warrants further investigation.

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