



COMMENT ON PAREEK ET AL.

Enhanced Predictive Capability of a 1-Hour Oral Glucose Tolerance Test: A Prospective Population-Based Cohort Study. *Diabetes Care* 2018;41:171–177

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In a recent article in *Diabetes Care*, Pareek et al. (1) described a strong predictive power for 1-h postload glucose values. This observation is well known to be true in the case of diabetes and pregnancy. In our original article (2), the results of the glucose diaries of 322 women with type 1 diabetes who performed 8–10 self-monitored blood glucose tests per day for at least 14 days before conception, throughout pregnancy including labor and delivery, and 1 month postpartum were analyzed. The highest blood glucose of the day was reflected in the 1 h (not the 2 h) after the start of the meal. The realization that the 1-h postprandial glucose concentration predicted macrosomia was the basis for the entire range of treatment options. The only way to maintain the 1-h postprandial glucose in the normal range (<120 mg/dL) is to decrease the carbohydrate content of the meal (3). Based on the analysis of diet diaries, the maximum amount of carbohydrate a pregnant woman could consume without producing a peak postprandial response above normal for pregnancy or producing starvation ketosis was a meal plan consisting of

$<33\%$ carbohydrate. However, breakfast must be almost devoid of carbohydrate in order to achieve a normal postprandial glucose concentration. This observation resulted in the birth of the “euglycemia diet” in pregnancy (4). Next was the study of rapid-acting insulin analogs to prove that they are safe and efficacious in pregnancy. The two rapid-acting insulin analogs that prevent postprandial hyperglycemia and are considered safe in pregnancy (category B) are insulin lispro and insulin aspart (5).

It is well known that exercise before eating results in a lower postprandial glucose concentration. However, exercise was not recommended during pregnancy. Thus, I next studied five different types of exercise while the fetus was monitored. Arm ergometry emerged as the safest form of exercise for pregnant women; it resulted in no uterine irritability and no fetal distress and lowered the postprandial glucose concentration by 30 mg/dL (5).

In summary, the quest to conquer the postprandial glucose concentration led to an entire career of developing the safest means to achieve and maintain

normoglycemia before, during, and after all pregnancies complicated by diabetes.

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