

Lower versus Higher Glycemic Criteria for Diagnosis of Gestational Diabetes

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CLINICAL PROBLEM

Treatment of gestational diabetes reduces the risk of serious perinatal outcomes. However, diagnostic criteria for gestational diabetes vary worldwide, with some professional organizations now recommending lower glycemic criteria developed through a consensus process.

CLINICAL TRIAL

Design: A randomized trial examined whether the diagnosis of and treatment for gestational diabetes with the use of lower glycemic thresholds, as compared with higher thresholds, would improve infant outcomes without increasing maternal risk.

Intervention: 4061 women at 24 to 32 weeks' gestation were assigned to be evaluated for gestational diabetes with the use of lower diagnostic criteria (fasting plasma level ≥ 92 mg/dl [5.1 mmol/liter], 1-hour level ≥ 180 mg/dl [10.0 mmol/liter], or 2-hour level ≥ 153 mg/dl [8.5 mmol/liter]) or with the use of higher diagnostic criteria (fasting plasma level ≥ 99 mg/dl [5.5 mmol/liter] or 2-hour level ≥ 162 mg/dl [9.0 mmol/liter]). The primary outcome was the birth of a large-for-gestational-age infant (birth weight, >90 th percentile).

RESULTS

Primary outcome: Gestational diabetes was diagnosed in more women in the lower-glycemic-criteria group than in the higher-glycemic-criteria group. The risk of giving birth to a large-for-gestational-age infant did not differ significantly between the groups.

Secondary outcomes: Most infant outcomes did not differ significantly between the groups, although more infants in the lower-glycemic-criteria group were treated for hypoglycemia. Regarding maternal outcomes, induction of labor, use of pharmacologic agents, and use of health services were more common in the lower-glycemic-criteria group.

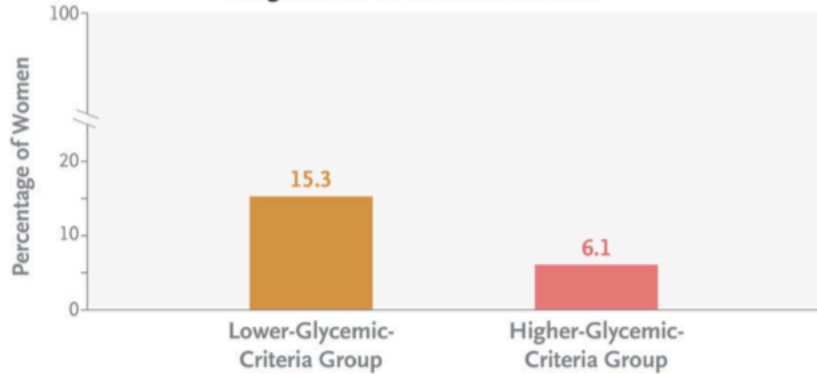
REMAINING QUESTIONS

Further study is required to understand the following:

- Whether greater detection and treatment of neonatal hypoglycemia with the lower criteria will lead to later benefits or harms.
- Whether treatment of mild gestational diabetes confers later maternal cardiometabolic benefits.

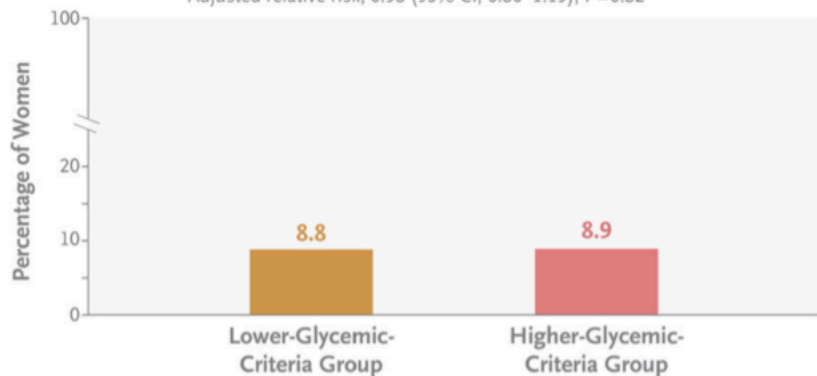
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Diagnosis of Gestational Diabetes



Birth of a Large-for-Gestational-Age Infant

Adjusted relative risk, 0.98 (95% CI, 0.80–1.19); P=0.82



Secondary Outcomes

Outcomes	Lower-Glycemic-Criteria Group	Higher-Glycemic-Criteria Group
Infant		
Birth weight (g)*	3389±545	3402±548
Gestational age at birth (wk)*	39.3±1.6	39.3±1.6
Preterm birth, <37 weeks' gestation (%)	5.4	5.2
Composite of serious health outcomes (%)	2.5	2.2
Maternal		
Serious health outcome (%)	4.1	3.7

*Data are mean ±SD.

CONCLUSIONS

Use of lower glycemic criteria for the diagnosis of gestational diabetes did not reduce the risk of a large-for-gestational-age infant and led to greater use of health services.