

What's the best treatment for gestational diabetes?

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Evidence-based answer

There is no single approach to glycemic control that is better than another for reducing neonatal mortality and morbidity. Glycemic control—regardless of whether it involves diet, glyburide, or insulin—leads

to fewer cases of shoulder dystocia, hyperbilirubinemia requiring phototherapy, nerve palsy, bone fracture, being large for gestational age, and fetal macrosomia (strength of recommendation: **A**).

Clinical commentary

Customize the intervention

Achieving solid glucose control for patients with gestational diabetes should be easy—most patients are healthy and motivated to do what is best for their babies. But a new diagnosis and blood sugar monitoring requirements can be daunting. Lifestyle changes and medications can quickly add to the sense of being overwhelmed.

Fortunately, whatever brings down the blood sugar will do as therapy, so the patient can negotiate with her doctor to develop an intervention—be it diet, exercise, oral medications, insulin, or a combination—that works for her.

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FAST TRACK

Diet, glyburide, and insulin all reduce neonatal morbidity and mortality from gestational diabetes

Evidence summary

Findings from 2 studies support the notion that the treatment of gestational diabetes decreases neonatal morbidity and mortality (**TABLE**).^{1,2} Both studies found a decrease in neonatal morbidity and mortality for those patients treated either with diet or insulin. One study found a higher rate of NICU admission in the treatment group, but the authors attributed this to physician awareness of the patient having gestational diabetes.¹

Glyburide vs insulin

A high-quality randomized controlled trial comparing glyburide with insulin among 404 women found no

difference in maternal hypoglycemia, neonatal mortality, or neonatal features and outcomes (including birthweight, NICU admissions, hyperbilirubinemia, and hypoglycemia; $P \geq .25$).³ Although this was a fairly large trial, it may have been underpowered since it found small differences in such rare outcomes.

Similarly, a retrospective study comparing glyburide with insulin in 584 women found little difference between the 2 approaches. Women in the glyburide group had better glycemic control, but the women in the insulin group started with higher initial blood sugars.⁴ The glyburide group had fewer NICU admissions than the insulin group (num-

TABLE

Treatment of gestational diabetes reduces neonatal morbidity and mortality

TYPE OF STUDY	CONTROL(S)	INTERVENTION	NEONATAL MORBIDITY AND MORTALITY	ADMISSIONS TO NICU	NNT
RCT ¹	GDM routine care (N=510)	GDM treated with diet or insulin (N=490)	Control: 4% Intervention: 1%	71% diet and insulin vs 61% routine care NNH: 100	34
Cohort ²	1) No GDM (N=1110) 2) GDM not treated (due to late entry to care) (N=555)	GDM treated diet or insulin (N=1110)	Control 1: 11% Control 2: 59% Intervention: 15%	Not reported	2*

*Compared with patients presenting late.

GDM, gestational diabetes mellitus; NNH, number needed to harm; NNT, number needed to treat.

ber needed to treat [NNT]=11), but higher rates of jaundice (number needed to harm [NNH]=25), pre-eclampsia (NNH=17), and maternal hypoglycemia (NNH=8). All other neonatal outcomes were similar between groups.

Diet alone vs diet + insulin

A meta-analysis combined 6 RCTs comparing diet alone with diet plus insulin in a total of 1281 women.⁵ Insulin was moderately superior to diet in preventing fetal macrosomia (NNT=11; 95% confidence interval, 6–36), but not in rates of hypoglycemia, hypocalcemia, hyperbilirubinemia, or congenital malformations.

Recommendations from others

The American Diabetes Association (ADA) recommends that women diagnosed with gestational diabetes by a 3-hour glucose tolerance test receive nutritional counseling from a registered dietician. The ADA also recommends insulin therapy if diet is unsuccessful in achieving fasting glucose <105 mg/dL, 1-hour postprandial <155 mg/dL, or 2-hour postprandial <130 mg/dL.⁶

The American College of Obstetricians and Gynecologists (ACOG)

recommends the use of diet or insulin to achieve 1-hour postprandial blood sugar of 130 mg/dL.⁷ Both ADA and ACOG indicate that further studies are needed to establish the safety of glyburide before general use can be recommended. ■

References

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Insulin was better than diet for preventing fetal macrosomia, but rates of congenital malformations and hypoglycemia were similar