

Gestational Diabetes Mellitus

DEFINITION, DETECTION, AND DIAGNOSIS

Definition. Gestational diabetes mellitus is defined as carbohydrate intolerance of variable severity with onset or first recognition during the present pregnancy. The definition applies whether insulin is used for treatment or the condition persists after pregnancy but does not exclude the possibility that the glucose intolerance may have antedated the pregnancy.

Detection. All pregnant women should be screened for glucose intolerance because selective screening based on clinical attributes or past obstetric history has been shown to be inadequate. Pregnant women who have not been identified as having glucose intolerance before the 24th wk should have a screening glucose load between the 24th and 28th wk consisting of 50 g of oral glucose given without regard to time of the last meal or time of day. Venous plasma glucose is measured 1 h later. A value of ≥ 140 mg/dl is recommended as a threshold to indicate the need for a full diagnostic glucose tolerance test.

Diagnosis. Diagnosis is based on results of the 100-g oral glucose tolerance test during pregnancy interpreted according to the diagnostic criteria of O'Sullivan and Mahan (1). Definitive diagnosis requires that two or more of the venous plasma glucose concentrations be met or exceeded: fasting, 105 mg/dl; 1 h, 190 mg/dl; 2 h, 165 mg/dl; 3 h, 145 mg/dl.

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OBSTETRIC AND PERINATAL CONSIDERATIONS

The offspring of mothers who experience fasting (≥ 105 mg/dl) and postprandial (≥ 120 mg/dl) hyperglycemia are at greatest risk for intrauterine death or neonatal mortality, and such mothers must undergo careful antepartum fetal surveillance. Perinatal mortality for offspring of the patient with gestational diabetes who maintains normal fasting and postprandial glucose levels may not be increased above that observed in the general population under conditions of *optimum* obstetric care and restitution of fasting and postprandial plasma glucose to normal limits. All patients with gestational diabetes are at significant risk for fetal macrosomia and other neonatal morbidities, including hypoglycemia, hypocalcemia, polycythemia, and hyperbilirubinemia.

THERAPEUTIC STRATEGIES

- Close surveillance of mother and fetus must be maintained in all instances of gestational diabetes mellitus. Maternal surveillance should be directed toward monitoring for elevations of fasting or postprandial glucose in capillary blood or venous plasma and designed to detect any deterioration of glucose homeostasis as gestation proceeds.
- Monitoring of maternal urinary glucose is no longer deemed adequate or sufficient.
- Increased fetal surveillance is appropriate, but the starting time, frequency, and techniques utilized should depend on the cumulative degree of risk that the fetus is believed to bear.
- All women with gestational diabetes mellitus should receive nutritional counseling consistent with the rec-

POSITION STATEMENT

ommendations for calorie distribution proposed by the American Diabetes Association. Intake of sucrose should be limited.

- If dietary management does not consistently maintain the fasting plasma glucose ≤ 105 mg/dl and/or the 2-h postprandial plasma glucose ≤ 120 mg/dl on two or more occasions within a 2-wk interval, insulin therapy is initiated in many centers. Self-monitoring of blood glucose is a requirement for effective insulin therapy. If insulin is prescribed, only highly purified nonbeef insulin preparations should be used.
- Oral hypoglycemic agents cannot be recommended during pregnancy.
- Breast-feeding should be encouraged in women with gestational diabetes mellitus.

PROGNOSTIC CONSIDERATIONS

Women in whom gestational diabetes mellitus is diagnosed should be followed postpartum to detect diabetes early in its course. They should be evaluated initially at the first postpartum visit by a 2-h oral glucose tolerance test with a 75-g glucose load.

REFERENCES

1. O'Sullivan JB, Mahan CM: Criteria for the oral glucose tolerance test in pregnancy. *Diabetes* 13:278-85, 1964