

PPUK - Gestational Diabetes



Gestational diabetes mellitus, or GDM, is similar to type 2 diabetes, but it diminishes after pregnancy. This condition occurs in up to six percent of women during pregnancy. If you have GDM or are pregnant and have type 2 diabetes, your health care team must monitor your condition closely. In addition, pregnancy may hinder your action plan if you are not aware of the potential problems. Those with type 1 diabetes who become pregnant need to be monitored exceptionally closely during pregnancy and should not start any new exercise or continue physical activities without explicit clearance by a physician experienced in the field of reproductive endocrinology.

Pregnancy, especially in women with diabetes, alters glucose metabolism. Like type 2 diabetes, gestational diabetes is caused by insulin insensitivity or resistance. And just as it is in those with type 1 and type 2 diabetes, good glucose control is very important in those with gestational diabetes. But the condition for women with GDM is somewhat different than it is with women with type 2 who aren't pregnant. In gestational diabetes, glucose uptake by muscles and liver production of glucose is reduced even further (Artal 1996). In addition, the glucose demand of the fetus results in lower fasting blood glucose levels and increased blood glucose levels after meals because of insulin resistance. Most oral hypoglycemic agents are not used for treating gestational diabetes because they enter the placenta (the nutrient source for the fetus) and can adversely affect the fetus. However, some mothers with GDM take insulin to control their glucose levels. Insulin does not enter the placenta and thus does not directly affect the fetus. Nonetheless, hypoglycemia, the direct effect of too much insulin in the mother's blood, will adversely affect the fetus.

The fetus is entirely dependent on nutrition (carbohydrate, protein, fat, vitamins and minerals) from its mother. Therefore the fetus is at risk for hypoglycemia that the mother may experience if she has gestational diabetes, especially if she exercises or takes insulin to control her insulin levels. The risk of hypoglycemia is significant in a woman with GDM who is starting an exercise or insulin regime. A physician who is experienced in treating women with gestational diabetes should monitor the condition closely.

Exercise and proper nutrition can play a pivotal role in treating GDM or type 2 diabetes in those who are pregnant, just as these measures can for those who are not pregnant (Artal 1996). When the diabetes health care team takes care of a pregnant patient, they take into consideration the decreased capacity for exercise caused by changes in anatomy and physiology. But the correct diagnoses needs to be made, because it is possible that hyperglycemia in pregnancy can be caused by the absence of insulin production (type 1 diabetes), which, if not diagnosed and treated early and properly, can result in severe complications for the mother and fetus such as poor fetal health, excess fetal growth that may interfere with vaginal delivery, and diabetic keto-acidosis.

Women who are physically active and then become pregnant are at lower risk of complications during pregnancy than those who start exercising after they become pregnant. This risk of a complication is amplified in those who already have diabetes or develop GDM. But the prime goal in relation to exercise should be glucose control. The generally accepted fasting glucose levels are between 95 and 105mg/dl, and the after-meal glucose level is lower than 140 mg/dl at one hour and less than 120 mg/dl at two hours after meals. If glucose is not controlled with diet modification and exercise, then insulin treatment should be started (Turok 2003).



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