

Today's column kicks off a two-part series on Diabetes and Pregnancy. First, a look at Gestational Diabetes Mellitus. Part 2 will focus on pre-existing diabetes in pregnancy. Watch for that in two weeks!

Dr. Eric Johnson writes a column for this space every other Friday.



Dr. Eric Johnson is a family practice doctor in Grand Forks with a special interest in diabetes -- and a special knack for writing. As a member of the Dakota Diabetes Coalition, he has generously made himself available to answer questions through our listserv.

Visit our website!

<http://www.ndhealth.gov/diabetescoalition/>

Diabetes and Pregnancy -- Part One Gestational Diabetes

Q. Do women with gestational diabetes treat their diabetes differently from patients who were diabetic before pregnancy?

Although there are similar management principles for these two diabetes states, some differences do exist. For optimal treatment, they need to be recognized as separate entities.

- Gestational Diabetes Mellitus, or Diabetes of Pregnancy, is usually diagnosed by an oral glucose tolerance test between the 24th and 28th week of pregnancy.
- It occurs in 2-9% of pregnancies.
- Management can include insulin (usually preferred, better efficacy) or sulfonylureas-- in very select cases
- Dietary management a very important component
- Only have 8-16 weeks to manage, must be aggressive to avoid complications:
- Neonatal hypoglycemia--can be severe
- Macrosomia
- Fractures
- Shoulder dystocia
- Nerve palsies (Erb's C5-6)
- Pregnancy outcomes can be very poor with hypertension/nephropathy
- Patients should be rechecked 6-12 weeks following delivery, and annually thereafter to be screened for type 2 diabetes-high risk of developing type 2 diabetes. Gestational diabetes is considered to be a pre-diabetic state, and should be managed as such.

Choosing who should be screened for gestational diabetes is controversial. Some insist that it should be limited to high risk groups. Others think it should be broader, pointing to the growing diabetes epidemic, and the trend toward women becoming pregnant later in life.

The oral glucose tolerance test

	75 g	100g
Fasting	95	95
1 hour	180	180
2 hour	155	155
3 hour	--	140

Two or more of the venous plasma concentrations must be met or exceeded for a positive diagnosis, as noted in the table. The test should be done in the morning after an overnight fast of between 8 and 14 hours and after at least 3 days of unrestricted diet (150 grams of carbohydrate per day) and unlimited physical activity. Naturally, the woman should remain seated and should not smoke throughout the test.

Treatment and management

Within a few days of diagnosis, the patient should see a both a diabetes educator and a dietitian. Typically, the patient will be placed on an individualized meal plan. It will provide for an appropriate amount of carbohydrates. She will also be taught how to use a blood glucose monitor so that she can test her own blood sugar at home. The expectant mother would use the monitor to get glucose measurements after fasting, pre-meal, 2 hours after a meal, and at bedtime. The 3 a.m. test is optional and, most patients would be happy to learn, only occasional!

Target values for glucose levels:

Fasting and pre-meal: 60-90
 Post-meals and bedtime: <120

Next usually comes insulin

Patients not meeting these parameters after one week of meal planning and appropriate activity levels need pharmacotherapy, almost always insulin.

Often these patients will be started on Human NPH insulin (Novolin N, Humulin N) at supertime, bedtime, or twice a day.

Human Regular insulin (Novolin R or Humulin R) may be added if blood sugars remain elevated after meals. Likewise, analog insulins may be used in place of older Regular insulins. Lispro (Humalog) or Aspart (Novolog) would be effective choices in this situation. Currently, glargine (Lantus) or detemir (Levemir) are not used frequently in gestational diabetes, since they are category C in pregnancy. This topic will be developed further next time with a discussion on pre-existing Diabetes in Pregnancy.

There has been some use of the sulfonylurea, glyburide, in gestational diabetes cases. But its role appears limited and it may not be as effective as insulin. It is tried only after an appropriate approach to diet and exercise has failed to lower blood sugars adequately. Only then might the patient be put on glyburide. If blood glucose targets are not reached in one week on this oral ant-diabetic agent, generally the expectant woman would be put on insulin instead.

diabetes-- Dr. Johnson's Column #3, July 27, 2007

If you have comments about the column, or questions for Dr. Johnson's future columns, please contact gailhand@qwest.net