GESTATIONAL DIABETES

INFORMATION GUIDE FOR EXPECTANT MOTHERS

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Québec

GESTATIONAL DIABETES

Gestational diabetes, also known as pregnancy diabetes or gestational diabetes mellitus (GDM), is expressed by an increase in glycemic (blood-glucose/sugar) levels, particularly in the second and third trimesters of pregnancy.

Gestational diabetes affects 5 to 10 % of Caucasian women who are pregnant and up to 15 to 20 % of women of Hispanic, Asian, or African origin. Other factors also increase the risk of developing gestational diabetes (see box).

In 90 % of cases, gestational diabetes disappears after birth. However, the gestationally diabetic mother is at significant risk of developing type-2 diabetes in the years following the delivery, and her child is at risk of obesity and diabetes as early as adolescence or during his adult life.

WOMEN WHO ARE AT RISK

Many factors increase the risk of developing gestational diabetes.

- Being aged 35 years or older.
- Being overweight before becoming pregnant.
- Having relatives with type 2 diabetes.
- Having already given birth to a baby weighing more than 4 kg (9 lb).
- Having had gestational diabetes during a previous pregnancy.
- Belonging to an ethnic group at high risk of developing diabetes (Aboriginal, Latin American, Asian or African ancestry).
- Having previously had abnormally high blood-glucose (sugar) levels, such as a diagnosis of impaired glucose tolerance or prediabetes.
- Regularly taking cortisone-based medications.
- Having polycystic ovary syndrome.
- Having a brownish thickening of the skin around the neck and beneath the armpits (*acanthosis nigricans*).

GLUCOSE METABOLISM

Insulin is secreted by the pancreas to regulate blood-glucose (sugar) levels. Gestational diabetes is caused by the anti-insulin effect of placental hormones. This is often referred to as "insulin resistance". These hormones reach their peak during the second half of the pregnancy (2nd or 3rd trimesters).

Women normally compensate for the hormonal effect by secreting more insulin. That enables blood-glucose (sugar) levels to remain at normal levels. Gestational diabetes occurs when the pancreas can no longer produce sufficient insulin to counter the surplus hormones.

POTENTIAL OUTCOMES

Gestational diabetes exposes the mother and her baby to increased risks.

FOR THE MOTHER

- High blood pressure and pre-eclampsia (headache, changes in vision, abdominal pain, rapid and significant swelling).

- Complications at the time of delivery:
  - cesarean birth if the baby has a high birth weight;
  - vaginal and perineal tearing during birth;
  - delivery with forceps or vacuum extraction (ventouse);
  - premature delivery for medical reasons.

FOR THE NEONATE

- Macrosomia (big baby). When birth weight exceeds 4 kg (9 lb), the neonate faces an increased risk of injury during the delivery.
- Hypoglycemia (decrease in blood glucose).
- Jaundice (icterus).
- Respiratory (breathing) difficulties at birth.

SCREENING

It is recommended that all pregnant women undergo a diabetes screening test between the 24th and 28th week of pregnancy. For expectant mothers who have risk factors, it is recommended that they take the test at the beginning of their pregnancy.

50-GRAM GLUCOSE TOLERANCE TEST

Blood-glucose (sugar) levels are measured one hour after ingesting a sweet liquid containing 50 g of glucose at any time of the day, **without fasting**. If the test result is:

- Normal: no gestational diabetes;
- Abnormal: the expectant mother has gestational diabetes and will be referred for case management;
- Inconclusive: the attending physician will propose a validation test:
  - Capillary testing at home for one week (blood-glucose levels measured on fingertips after fasting and after each meal) to determine whether blood-glucose levels are elevated on one's normal diet. This assessment will make it possible to compare blood glucose (sugar) levels on the days prior to and following the treatment.
  - Confirmation blood test one hour before ingesting 75 g of a sweetened liquid while fasting, followed by another blood sample one hour after. An abnormal test result confirms the diagnosis of gestational diabetes.

75-GRAM GLUCOSE TOLERANCE TEST

(without prior 50-gram test)

If the result is:

- Normal: no gestational diabetes;
- Abnormal: the expectant mother has gestational diabetes and will be referred for case management;

TREATMENT

If you have been diagnosed with diabetes mellitus, you will receive directives on how to modify your diet to promote normal blood-glucose (sugar) levels based on factors linked to your pregnancy. You will be encouraged to exercise within your capabilities. Other sound health practices will also be considered, such as getting sufficient sleep and effective stress management. These measures are usually sufficient to control gestational diabetes.

FOOD AND NUTRITION

Basic nutrition and dieting principles for expectant mothers with gestational diabetes.

- Spread your meals throughout the day. Dividing your food intake over three meals and snacks at regular intervals helps to stabilize your blood glucose (sugar) levels.
- Balance your diet according to the principles of Canada's Food Guide. A balanced meal should include items from each of the four food groups.
- Restrict the amount of carbohydrates in your meals and snacks. This means limiting sweet foods and snacks (desserts, chocolate, juice, etc.) and having moderate servings of fruits and starchy foods (bread, cereal, pasta, rice, potatoes, etc.) **without fully excluding them**. Choose whole-grain products to better satisfy your hunger.
- Ensure a good intake of proteins (meat, chicken, fish, eggs, legumes, tofu, nuts/grains, and dairy products). These foods are essential to manage hunger and to prevent cravings.
- Eat plenty of vegetables. Increase your consumption of these nutrient-rich foods to feel satiated when you need to decrease your servings of starchy foods.
- Make sure that you feel satisfied when eating to meet your overall nutritional requirements.
- Try to achieve a healthy weight gain until the end of your pregnancy.

Women diagnosed with gestational diabetes can attend group education meetings given by a nutritionist to learn more about basic principles and to get answers to their questions. The referring physician may request an individual nutritional assessment to develop a plan adapted for specific needs.

PHYSICAL ACTIVITY

Physical activity is a very significant component of your treatment. Being physically active helps to control diabetes by lowering insulin resistance.

Physical activity which increases the heart rate and which produces a slight shortness of breath (e.g.: difficulty whistling or breathing in through the nose only) is sufficient to have an impact on blood-glucose levels. Walking 30 minutes daily, which can be divided into two or three shorter walks when required, is sufficient and a totally safe practice during a pregnancy.

Performing more demanding physical activities is usually just as safe in most cases, but you should first speak to your physician before engaging in any of them.

MEDICATIONS

If your blood-glucose (sugar) levels remain too high despite changes to your lifestyle, the physician will prescribe insulin injections.

It is important to note that a woman who requires insulin is not doing anything wrong compared to other women who manage to control their blood-glucose (sugar) levels through diet and physical activity. Insulin treatment simply means that the pancreas is no longer producing the amount of insulin the body requires.

Oral medications may also be prescribed in certain cases.

AFTER PREGNANCY

BREASTFEEDING

Breastfeeding is indicated for all women, including those who have had gestational diabetes. Breastfeeding may even protect both mother and baby from diabetes later in life. Nursing a baby also helps the mother to lose the weight gained during the pregnancy and helps her to achieve a healthy weight balance.

What to do post-delivery if I had gestational diabetes?

Women who have had gestational diabetes are at greater risk of having it in a subsequent pregnancy or of having type-2 diabetes in the long run (70 % probability of becoming diabetic within 20 years after the delivery).

- Try to reach a healthy weight and to adopt a healthy lifestyle after giving birth. A healthy diet, regular exercise, and maintaining a healthy body weight are the best ways to prevent diabetes. As an added bonus, they also transmit a healthy lifestyle to all of the family.
- Take a hyperglycemia test within the first 3 months following the delivery to ensure that blood glucose (sugar) levels have returned to normal values. Then, throughout your life, get regularly screened for type-2 diabetes.

OBSTETRICS CLINIC SPECIALIZED IN GESTATIONAL DIABETES

Questions and information

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My target blood glucose (sugar) levels:

Fasting: 5.2 and less

1 h after meal: 7.7 and less

2 h after meal: 6.6 and less

References
Passeportsanté.net: Le diabète gestationnel
Diabète Québec: Diabetes in Pregnancy
Canadian Diabetes Association 2013 Guidelines
Canada's Food Guide

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