

# Case Study: A Comparison Between a “Terror” Reaction and a “Nonchalant” Reaction to the Diagnosis of Gestational Diabetes

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## PRESENTATION

S.E., a 30-year-old woman who was gravida 2, para 1, was asked to take a 3-hour oral glucose tolerance test (OGTT) after her 1-hour 50-g glucose screen yielded a result of 150 mg/dl. She was 27 weeks pregnant and stated that this never happened in her first pregnancy and that she was extremely worried. Her OGTT results were:

- Fasting: 78 mg/dl
- 1 hour: 206 mg/dl
- 2 hours: 173 mg/dl
- 3 hours: 133 mg/dl

Based on these results, she was diagnosed with gestational diabetes mellitus (GDM). Thus far in her pregnancy, she had gained 18 lb, and her blood pressure was normal. Her physician referred her to a high-risk perinatal medicine group for management of this diagnosis. S.E. terrified at the diagnosis, and the fact that she was now referred to a high-risk practice, intensified her concern.

The consulting physician who saw her performed her usual new patient visit and related the risks of this disorder. These risks included macrosomia, earlier-than-term delivery, increased possibility of a cesarean birth, possibility of neonatal hypoglycemia, and potential need to inject insulin as the pregnancy progressed. She added that the mother’s risk of developing GDM in a subsequent pregnancy was very high. S.E. was told she would be scheduled for weekly antenatal tests

to ensure the health of the placenta and her baby starting at 36 weeks. She was also instructed about how to test her blood glucose, keep records, and fax in the results once per week. In addition, she was told to limit sugars and starches.

S.E. left the office in tears and told her husband that the baby was in grave danger and that she could never become pregnant again. She said they would need extra help at home because it was likely that the baby would be sickly and might have diabetes.

R.L., a 38-year-old woman who was gravida 3, para 2, was asked to take a 3-hour OGTT after a 1-hour 50-g glucose screen yielded a result of 180 mg/dl at 28 weeks of pregnancy. She was reluctant to get the test, but the physician said that this was probably a false alarm and she should just rule out any problem. Her OGTT results were as follows:

- Fasting: 108 mg/dl
- 1 hour: 210 mg/dl
- 2 hours: 183 mg/dl
- 3 hours: 166 mg/dl

Based on these results, she was diagnosed with GDM.

She had gained 28 lb thus far in the pregnancy, and her blood pressure was normal. R.L. knew that her sister had this same condition and was “fine” and the baby was “fine.” Her physician explained that she would need to test her blood glucose a few times a day. She left the office

with a sigh of relief that her nonchalance about the diagnosis was confirmed. She told her husband that she has what her sister had but that it was nothing to worry about.

## QUESTIONS

1. What are the usual methods of screening for diabetes in pregnancy in the United States?
2. What are the normal parameters for blood glucose in pregnancy?
3. How would you counsel these women?

## COMMENTARY

The American Diabetes Association (ADA) recommends an OGTT, which checks for gestational diabetes, for all expectant mothers. This test is common during the 24th to the 28th week of pregnancy. Typically, the dose of glucose that is given is 50 or 100 g. Normal values for pregnancy are described below; values above this range indicate GDM.

For 50-g OGTT (for GDM screening):

- 1 hour: < 140 mg/dl

For the 100-g OGTT:

- Fasting: < 95 mg/dl
- 1 hour: < 180 mg/dl
- 2 hours: < 155 mg/dl
- 3 hours: < 140 mg/dl

Our first patient was anxious at baseline and so referral to a “high-risk” practice amplified her anxiety. It is important to emphasize the nature of the glucose abnormality and explain the reasons for referral in a gentle manner. Encouraging

the patient's partner to come to the visit is a good idea so that he can ask questions that the woman might have been too fearful to ask.

Our second patient had a higher degree of abnormality in her test results and had already gained quite a bit of weight by week 28. Additionally, she was already 38 years old, which increases the risk for diabetes and other complications. It is advisable to ask about patients' level of understanding of the diagnosis and significance of GDM to adequately educate them about the importance of good glucose control for themselves and their fetus.

Diabetes education from a certified diabetes educator is one way of accomplishing the above goals. The following simple, key elements of a discussion about GDM are crucial:

- Although there is no cause for unreasonable alarm, GDM requires treatment for the benefit of both woman and fetus.
- Main concerns are maternal blood glucose levels, which directly nourish the fetus through placental circulation. High glucose levels can lead to a larger-than-normal baby. This can cause a more difficult birth, possibly requiring a cesarean section, and might cause a preterm scheduled birth or result in low blood glucose requiring treatment in the newborn. Keeping maternal blood glucose levels to < 90 mg/dl fasting and < 120 mg/dl 1–2 hours after meals reduces the risk of developing these complications.
- Evaluate patients' eating and exercise habits, and consult a professional for appropriate counseling. Ethnic factors play an important role, and some women still think they should "eat for two."
- According to the ADA position statement on nutrition recommendations for people with diabetes:
  - Adequate energy intake that provides appropriate weight

gain is recommended during pregnancy. Weight loss is not recommended; however, for overweight and obese women with GDM, modest energy and carbohydrate restriction may be appropriate.

- Ketonemia from ketoacidosis or starvation ketosis should be avoided.
- Nutrition therapy focuses on food choices for appropriate weight gain, normoglycemia, and absence of ketones.
- Because GDM is a risk factor for subsequent type 2 diabetes, after delivery, lifestyle modifications aimed at reducing weight and increasing physical activity are recommended.
- Although this form of diabetes usually resolves after delivery, it could reappear in future pregnancies and raises a woman's risk of developing diabetes sometime later in her life. Following general dietary guidelines, maintaining ideal body weight, and being physically active are lifelong prevention measures.
- Provide printed literature, such as a pamphlet on GDM, which allows patients to read at their leisure, when they are less stressed. Encourage them to ask questions.
- Exercise is often overlooked. Although there are some things a pregnant woman might want to avoid, most basic exercises are fine.
- Scheduling postnatal testing is crucial and is part of accepted clinical guidelines for patients with GDM.

### CLINICAL PEARLS

- GDM is not a benign condition. Lifelong risks continue for the mother even if the diabetes resolves after pregnancy. Risks may continue for the baby, not only as a newborn, but also later in life. For example, an intrauterine environment that includes too much glucose or offers inadequate nutri-

tion has been linked to childhood obesity and type 2 diabetes later in life.

- Referring a patient to a diabetes education program staffed by certified diabetes educators will ensure that the key points mentioned above will be covered. It will also ensure that patients will get a detailed dietary evaluation and a realistic dietary prescription. In addition, a discussion of safe exercise routines is usually included in these sessions, as well as discussions about oral health, eye health, and foot care.
- It is extremely important to balance unnecessary worry or naïve nonchalance with appropriate information and with hands-on instruction about what the patient can do to limit her risk. Confirming patients' understanding at the conclusion of a visit is advisable.

### SUGGESTED READINGS

- American Association of Clinical Endocrinologists Diabetes Mellitus Clinical Practice Guidelines Task Force: AACE diabetes mellitus guidelines: diabetes and pregnancy. *Endocrine Pract* 13 (Suppl. 1):55–59, 2007
- American Diabetes Association: Nutrition recommendations and interventions for diabetes [Position Statement]. *Diabetes Care* 31 (Suppl. 1):S61–S78, 2008
- Buchanan TA, Xiang A, Kjos SL, Watanabe R: What is gestational diabetes? *Diabetes Care* 30 (Suppl. 2):S105–S111, 2007
- Cleveland Clinic: Oral glucose tolerance test during pregnancy [article online]. Available online from [http://my.clevelandclinic.org/services/oral\\_glucose\\_tolerance\\_test/hic\\_Oral\\_Glucose\\_Tolerance\\_Test\\_During\\_Pregnancy.aspx](http://my.clevelandclinic.org/services/oral_glucose_tolerance_test/hic_Oral_Glucose_Tolerance_Test_During_Pregnancy.aspx)
- Kitzmilller JL, Dang-Kilduff L, Taslimi MM: Gestational diabetes after delivery: short-term management and long-term risks. *Diabetes Care* 30 (Suppl. 2):S225–S235, 2007
- Perkins JM, Dunn JP, Jagasia SM: Perspectives in gestational diabetes mellitus: a review of screening, diagnosis, and treatment. *Clin Diabetes* 25:57–62, 2007

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