Putting Prevention into Practice

An Evidence-Based Approach

Screening for Gestational Diabetes

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Case Study

A 28-year-old South Asian patient at 30 weeks' gestation, S.F., presents to transfer prenatal care to your clinic. The patient has recently moved, and prenatal records indicate that S.F.'s most recent prenatal visit was at 22 weeks' gestation. This is the patient's first pregnancy. S.F. states that they have not been screened for gestational diabetes mellitus. The patient's prepregnancy body mass index was 23 kg per m^2, with a gain of 20 lb (9.1 kg) in this pregnancy. S.F.'s history reveals no medical comorbidities or family history of diabetes.

Case Study Questions

1. Based on the U.S. Preventive Services Task Force (USPSTF) recommendation statement on screening for gestational diabetes, which one of the following approaches is most appropriate for this patient?

- ☐ A. Screen for gestational diabetes at this visit.
- ☐ B. Do not screen for gestational diabetes because the patient presents after 28 weeks' gestation.
- ☐ C. Do not screen for gestational diabetes because the patient does not have risk factors for it.
- ☐ D. Do not screen for gestational diabetes because the potential harms associated with screening outweigh the benefits.
- ☐ E. Refer the patient to a diabetes educator to start home glucose monitoring.

2. After discussing screening for gestational diabetes, the patient would like to know more about the benefits of treatment if the diagnosis is made at 24 weeks or later. Based on the available evidence reviewed by the USPSTF, treatment decreases the risk of which of the following?

- ☐ A. Primary cesarean delivery.
- ☐ B. Shoulder dystocia.
- ☐ C. Preeclampsia.
- ☐ D. Macrosomia.

3. The patient is available for screening today but is not currently fasting. Which screening modality is the most appropriate for this patient?

- ☐ A. Offer the two-step screening approach, starting with the one-hour glucose challenge test.
- ☐ B. Offer screening using a nonfasting plasma glucose test.
- ☐ C. Offer screening using a risk-based questionnaire.
- ☐ D. Offer screening using A1C concentration.
- ☐ E. Offer the two-step screening approach, starting with the three-hour oral glucose tolerance test.

Answers appear on the following page.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and supporting documents on the USPSTF website (https://www.uspreventiveservicestaskforce.org). The practice recommendations in this activity are available at https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/gestational-diabetes-screening.

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CME This clinical content conforms to AAFP criteria for CME. See CME Quiz on page 562.

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Answers

1. The correct answer is A. The USPSTF recommends screening for gestational diabetes in asymptomatic pregnant people at 24 weeks' gestation or after. Screening in clinical practice is typically performed from 24 to 28 weeks' gestation; however, the USPSTF recommends that pregnant patients evaluated after 28 weeks' gestation should be screened as soon as possible if they have not already been screened. Factors that increase a person's risk for developing gestational diabetes include obesity, increased maternal age, history of gestational diabetes, family history, and belonging to a racial or ethnic group that is at increased risk for developing type 2 diabetes (patients of Hispanic, Native American, South or East Asian, or Pacific Island descent). Although some people may be at increased risk of developing gestational diabetes, the USPSTF recommends that all pregnant patients be screened, regardless of risk factors. The harms of screening, including anxiety, depression, and labeling, are small, and the benefits associated with treatment of gestational diabetes outweigh them. If the patient is diagnosed with gestational diabetes, initial treatment may include referral to a diabetes educator and home glucose monitoring.[1]

2. The correct answers are A, B, and D. Initial treatment for gestational diabetes typically comprises a combination of lifestyle interventions, including moderate physical activity, dietary changes, and glucose monitoring. Medications, including insulin or oral hypoglycemic agents, are often added if glucose levels remain elevated.[1] Treatment of gestational diabetes at 24 weeks' gestation or after is associated with decreased risk of primary cesarean delivery; however, treatment is not associated with a reduced risk of preeclampsia. Regarding neonatal outcomes, treatment of gestational diabetes at 24 weeks' gestation or after is associated with reduced risk of shoulder dystocia and macrosomia.[2] Treatment is also associated with a reduced risk of having a large for gestational age infant, birth injury (e.g., fracture, nerve palsies), and admission to the neonatal intensive care unit.[2]

3. The correct answer is A. In this situation, the patient can be offered the two-step approach if the patient is not fasting. The two-step approach involves screening with a nonfasting 50-g, one-hour oral glucose challenge test, followed by a diagnostic fasting 100-g, three-hour oral glucose tolerance test if the original screening test is positive. The one-step screening approach can also be offered when the patient can return in a fasting state. The one-step approach involves a diagnostic fasting, 75-g, two-hour oral glucose tolerance test. The USPSTF does not recommend any single specific test or screening strategy (one- vs. two-step approach). The USPSTF found no difference between a one- and two-step screening strategy for many maternal or infant outcomes. Although fasting plasma glucose is occasionally used to screen for gestational diabetes, there is no role for screening using a single nonfasting plasma glucose level. Other screening modalities, including using A1C concentration and risk-based questionnaire tools, are not widely used to screen for gestational diabetes.[1,2]

The views expressed in this work are those of the authors and do not reflect the official policy or position of Stony Brook University or the U.S. government.

References

1. Davidson KW, Barry MJ, Mangione CM, et al. Screening for gestational diabetes: US Preventive Services Task Force recommendation statement [published correction appears in *JAMA*. 2021;326(13):1331]. *JAMA*. 2021;326(6):531-538.
2. Pillay J, Donovan L, Guitard S, et al. Screening for gestational diabetes: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2021;326(6):539-562. ■