

## Selective Vs. Universal Screening for Gestational Diabetes Mellitus

I wrote this comment in response to the Tailored Guidelines “Diabetes mellitus with pregnancy” published in volume 2, Number 2, p. 399. In these guidelines, universal screening for gestational diabetes was advocated, though selective screening would probably suffice and even its benefit is currently debated.

The ultimate utility of making any diagnosis lies in our ability to change the course of the disorder and reduce morbidity and mortality. Owing to some lingering uncertainties about the utility of making the diagnosis of gestational diabetes mellitus, the value of the universal glucose screening is questioned.

Previously, the American college of obstetricians and gynecologists has supported selective screening, whereas the American Diabetes Association (ADA) has called for universal screening with a 50-g oral glucose challenge test. Risk factors were used to determine the gestational age at which screening is offered or to apply the one-step approach (oral glucose tolerance test without prior 50-g 1-hour glucose challenge test), which may be cost effective in some high risk patients.<sup>1</sup> However, Naylor et al.<sup>2</sup> developed a selective screening approach with selected data collected from 3,131 pregnant women. They randomly selected data from half of the women and categorized them into three groups (low-, intermediate-, and high-risk) based on a complex scoring system using weighted risk factors: age, BMI before pregnancy, and race. Their strategy did not entail screening women who were low risk. The remainder of women was screened with a 50-g oral glucose challenge test, with the threshold for a positive result based on their risk score. Naylor et al. found that this selective screening approach resulted in a 34.6% reduction in the number of screening tests performed, without a decrease in the detection rate of GDM.<sup>2</sup> Despite its scientific merits, however, busy obstetricians are unlikely to wend their way through this complex diagnostic schema for each pregnant woman.

In a major reversal, the ADA has recently recommended that screening be based on risk factors<sup>3</sup>. All patients should be screened for risk factors for GDM at their initial visit, then by serial urine dipstick testing for glucosuria. The ADA guidelines suggest that it is not cost effective to screen low risk group women, i.e. those who are less than 25 years old, are of normal body weight,

have no family history of diabetes, and are not members of ethnic or racial groups known to be at risk for gestational diabetes.

A woman is considered high risk if she has one or more of the following: marked obesity, personal history of GDM, glucose intolerance or glycosuria, or a strong family history of type 2 diabetes. A woman is considered intermediate risk if she does not fall into either the high- or low-risk category. If a woman is high risk, glucose testing should be done as soon as possible. If the initial testing is negative, the woman should be retested between 24 to 28 weeks of gestation. If she is intermediate risk, she should undergo glucose testing at 24 to 28 weeks. If she is low risk, the ADA does not recommend screening for GDM<sup>3</sup>. It is ironic that the criteria for excluding women from screening are so hard to discern that universal screening will probably be used as a matter of practical convenience.

Contradictory to the ADA recommendations described above, the United States Preventive Services Task Force concluded that there was insufficient evidence to recommend for or against universal screening for GDM. Although they found fair to good evidence that screening and treatment of GDM reduced the rate of fetal macrosomia, they found insufficient evidence that screening significantly reduced important adverse maternal or fetal outcomes, including outcomes related to macrosomia. In addition, they had concerns about the potential harms and costs of screening, especially given the high false-positive rate (> 80%) of the 50-g glucose challenge test.<sup>4</sup>

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### References

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2. Naylor CD, Phil D, Sermer M, Chen E, Farine D: Selective screening for gestational diabetes mellitus. *N Engl J Med* 1997; **337**: 1591–1596.
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