Editorial

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Be active, not passive, with how you screen for type 2 diabetes

◑ We can do a better job of uncovering the likely significant number of our patients whose diabetes has gone undiagnosed, at their peril

Type 2 diabetes mellitus (DM) is a major health problem, affecting approximately 8% of women in the United States. Furthermore, approximately 25% of people who have diabetes have not been given the diagnosis.[1] From 19 years of age upward, type 2 DM is one of the top 10 causes of death in women.[2]

Early diagnosis and treatment of type 2 DM can prevent vascular disease and might help reduce premature morbidity and death, but **active screening for diabetes has not been emphasized routinely** in ObGyn training and care, except during pregnancy. Because the prevalence of diabetes is increasing rapidly—doubling over the past 30 years, in fact[3]—ObGyns play a central role in effective population screening for diabetes.

Active and passive screening for type 2 DM—what's the distinction?

There are many recommended approaches to screening for type 2 DM:

- The United States Preventive Services Task Force (USPSTF) advocates a **passive approach**. The USPSTF concluded that there is insufficient evidence to recommend for or against screening for diabetes *except* for screening pregnant women and those who are hypertensive.[4] Simulations of cohorts of patients conclude, however, that passive screening alone would fail to diagnose 38% of cases of diabetes among adults in the United States.[5]
- An **active approach** to screening, on the other hand, will result in fewer than 5% of cases of type 2 DM being missed.

An approach to active screening. Consistent with guidelines of the American Diabetes Association (ADA)[1] and the American College of Obstetricians and Gynecologists,[2] one active approach to screening for diabetes is to test, every 3 years:

- all people aged 45 years and older
- all adult women who have a body mass index >25 kg/m^2 and at least one risk factor for diabetes.

The list of risk factors for diabetes is long. It includes:

- a **family history** of type 2 DM in a first-degree relative
- a history of **gestational DM**
- a history of having delivered **a baby who weighs more than 9 lb**
- a history of **polycystic ovary syndrome**
- a history of **hypertension** (blood pressure ≥140/90 mm Hg)
- **membership in a high-risk ethnic or racial group** (African-American, Hispanic, Native American, Asian-American, and Pacific Islander women)
- **dyslipidemia**, including a serum high-density lipoprotein level <35 mg/dL or a serum triglyceride concentration >250 mg/dL
- a history of **vascular disease**.

Active screening by measurement of hemoglobin A$_{1c}$

There are three approaches to screening for DM:

- measurement of hemoglobin A$_{1c}$ (HbA$_{1c}$), or glycated hemoglobin, an indicator of blood glucose

Instant Poll

Population studies have revealed that diabetic women do not receive documented contraceptive counseling at the same rate that healthy women do. What do you think can be done to improve the contraceptive counseling that diabetic women receive?

Tell us—at **robert.barbieri@qhc.com**. Please include your name and city and state.

Editorial

Why do so many diabetic women not receive contraceptive services?

In a recent review of the experience with the Kaiser Permanente Northern California (KPNC) patient population, researchers reported that 62% of 122,921 healthy women but only 48% of 8,182 diabetic women had been given contraceptive counseling or a prescription for contraception.[1] Similar observations have been reported in other populations.[2,3]

Why is it that so many diabetic women do not receive contraceptive services? One possibility is that physicians are reluctant to prescribe contraceptives that contain estrogen to diabetic patients because these women have a predisposition to vascular events; in fact, in the KPNC study, 31% of healthy women but only 13% of diabetic women were using a pill, patch, or ring, most of which contain estrogen.[1]

Another challenge is that primary care physicians sometimes simply run out of time during a woman's office visit because of the myriad services they need to review and coordinate, and therefore fail to provide contraceptive counseling (think of vision exams, foot care, nutritional counseling, adjustment of medications, treatment of comorbid disorders such as dyslipidemia and hypertension, and so on). One experienced diabetologist told that me that, yes, she tells her patients "Get on a contraceptive!" but doesn't have the time to provide detailed counseling about contraceptive options. Nor does she routinely prescribe contraceptives.

It's likely that diabetic women are a high-risk population who need both **1)** the services of a primary care provider or endocrinologist to manage their diabetes and **2)** an annual visit to an ObGyn to ensure that they receive reproductive counseling and effective contraception.

Last, of particular interest to gynecologists is that, in the KPNC study, **6.5% of healthy women and 5.6% of diabetic women had been prescribed an intrauterine contraceptive**.[1] For diabetic women, intrauterine contraception might be an excellent option for reliable reversible contraception because it does not contain estrogen. With fewer than 6% of diabetic women using an intrauterine device, we have plenty of opportunity to provide this effective contraceptive to more of our patients.

References

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control over preceding weeks or months (cutoff for a diagnosis of type 2 DM, ≥6.5% on two occasions)

- measurement of the fasting glucose level (cutoff for diagnosis, ≥126 mg/dL on two occasions)
- measurement of serum glucose 2 hours after a 75-g oral glucose load (cutoff, ≥200 mg/dL).

The diagnosis also can be made with one HbA_{1c} measurement ≥6.5% *plus* one fasting glucose ≥126 mg/dL.

My preferences and practice. I use the HbA_{1c} test to diagnose type 2 DM in nonpregnant women because it can be performed at any time of day. I prefer not to use the oral glucose test because it is particularly burdensome—requiring the patient to fast before the test, ingest the glucose load, and return 2 hours later to have

the blood glucose level measured.

When my patient's HbA_{1c} level is abnormal, I order a second confirmatory HbA_{1c} *or* prescribe a home glucose meter and test strips and instruct her to begin measuring the fasting glucose level three to seven times a week. If the home testing regimen shows the fasting glucose level to be consistently ≥126 mg/dL over several weeks, the patient has diabetes.

A word about HbA_{1c} cutoff values. An HbA_{1c} concentration <5.7% is normal.* An HbA_{1c} between 6.0% and 6.4% signals a prediabetic state and a high risk of diabetes; women in this category have a 25% to 50% likelihood of developing type 2 DM within 5 years.[6]

An HbA_{1c} between 5.7% and 5.9% represents a risk of diabetes—but not as high a risk as does a value between 6.0% and 6.4%. Women whose values fall in this mid-range have a 10% to 25% risk of developing type 2 DM within 5 years.[6]

Concern about reliability. Red blood cell (RBC) turnover and, therefore, the HbA_{1c} normal range, are influenced by ethnic and racial background; hemoglobinopathies; thalassemia syndromes; uremia; iron deficiency; and hyperbilirubinemia. Some authorities have concluded that the influence of these variables significantly limits the utility of the test.[7]

In all populations that have been studied, however, HbA_{1c} is normally distributed, and a value ≥6.5% is consistently at the upper tail of that distribution. In most cases, **an abnormal HbA_{1c} result reliably identifies a problem of glucose metabolism**. When a patient has a medical condition that influences

*A technical note: HbA_{1c} testing should be performed in a laboratory that uses a certified and standardized method.

RBC turnover, measurement of the fasting blood glucose level helps assess the severity of a problem of glucose metabolism.

Last, obstetricians should be alert to the ADA recommendation that women who have gestational type 2 DM should be tested for persistent diabetes 6 to 12 weeks after delivery. Do *not*, however, measure HbA_{1c}, which has lower sensitivity in this setting than the 2-hour glucose challenge test (which you should use).[1]

Interventions for newly diagnosed disease

Most professional medical associations recommend diet and exercise as first-line treatments for women in whom type 2 DM is newly diagnosed: Randomized clinical trials have demonstrated that the combination of weight loss of 10% of body mass (see Related Article box below) *plus* 150 min/week of moderate-intensity aerobic exercise can reduce the blood glucose level.[1] The ADA recommends a diet that is high in fiber, whole grains, and vegetables and that contains reduced glycemic index foods.[1] A dietician can help your patients achieve this goal.

When exercise and weight loss are insufficient to lower the blood glucose level, an antihyperglycemic medication is indicated. **Metformin** is often recommended as the first-line drug for treating type 2 DM. The effects of treatment should be monitored with frequent blood glucose tests (fasting tests: target glucose level, <100 mg/dL; preprandial tests: target, 70 to 130 mg/dL; and postprandial tests: target, <180 mg/dL).

Many authorities recommend that a certified diabetes nurse–educator be involved in the care of patients taking medication for diabetes. Most health insurers help patients pay for the purchase of a glucose meter and glucose test strips.

Team approach to management

Of course, once you diagnose type 2 DM, it's important for you to work closely with your patient's primary care provider. For a woman who has multiple chronic conditions—such as concomitant type 2 DM, hypertension, and dyslipidemia—the optimal scenario might be for the primary care provider to coordinate her care. For a woman of reproductive age, it might be highly advantageous to have an ObGyn involved in her reproductive care (see "Why do so many diabetic women not receive contraceptive services?," page 8).

Work to uncover a subpopulation at risk

Based on population surveys, a significant number of your patients have diabetes, including approximately 25% whose disease remains undiagnosed. Taking an active screening strategy will reduce the number of women in your practice whose type 2 DM has not been diagnosed. ⊘

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