



CANADIAN *diabetes*

Diabetes in Pregnancy: International Recommendations Provide an Opportunity for Improved Care

Sara J. Meltzer MD FRCPC, Diana Sherifali RN PhD CDE

EDITORS' NOTE

Diabetes in pregnancy has been the subject of recent major international guidelines for screening, diagnosis and management, some of which have suggested changes to previous guidelines. In 2009, the International Diabetes Federation (IDF) introduced the *Global Guideline on Pregnancy and Diabetes* (1). The International Association of Diabetes and Pregnancy Study Groups (IADPSG) was initially formed to help manage the international Hyperglycemia and Adverse Pregnancy Outcome (HAPO) trial, and was subsequently expanded to include countries not involved in that study, in an attempt to reach worldwide consensus on consistent methods of screening, diagnosis and classification of gestational diabetes mellitus (GDM). Their recommendations were also published recently (2).

The primary purpose of addressing these issues is to raise awareness of the importance of diagnosing and appropriately treating women with any form of diabetes in pregnancy. In the 2008 Canadian Diabetes Association (CDA) clinical practice guidelines (3), there was recognition that postpartum evaluation of these women falls far short of guideline recommendations (often only 20 to 30%, rather than the desired 100%), and thus represents an area that should be addressed aggressively. Over the next 6 months, as part of the CDA's guidelines implementation initiative, numerous community and healthcare system alerts will be released to educate women who have had GDM, as well as any healthcare professional with whom they interact, about the importance of postpartum follow-up. This issue of *Canadian Diabetes* puts this need in perspective.

On page 3, Dr. Denise Feig compares the CDA and IDF guidelines, wherein she highlights an important issue, i.e. the need for optimal glycemic control prior to and during pregnancy, especially in light of the increasing number of pregnant women who

may have undiagnosed type 2 diabetes, or who have a pregnancy complicated by GDM (4). It is crucial that women with type 2 diabetes be diagnosed, as pre-pregnancy planning is as important to them as it is for women with type 1 diabetes. It is also key that women understand *why* they should strive for optimal glycemic control prior to pregnancy, i.e. to avoid pregnancy loss and congenital abnormalities in their offspring. Thus, clinicians must use every interaction with women who have any form of diabetes in their reproductive years to raise awareness, confirm appropriate birth control protection and help them plan their pregnancies. For women with diabetes, pre-pregnancy planning includes folic acid supplementation; discontinuation of angiotensin-converting enzyme inhibitors, angiotensin-receptor blockers and statins; and evaluation for retinal changes or any evidence of nephropathic, neuropathic or cardiovascular (CV) complications. Women who are well-controlled on oral antihyperglycemic agents (metformin and/or glyburide) should ideally be converted to the use of insulin and establish good control on their insulin regimen prior to pregnancy.

In Canada, whenever possible, pregnant women should be seen by an interdisciplinary healthcare team that specializes in diabetes and pregnancy. During pregnancy, the CDA guidelines offer specific recommendations for glycemic control, including pre-meal adjustments in type 1 diabetes and post-meal adjustments in type 2 diabetes and GDM. Both the IDF and CDA guidelines emphasize the importance of postpartum assessments, with the CDA noting the importance of follow-up for retinal changes in the year following pregnancy

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in women with pre-existing diabetes. Both guidelines support the advantages of breastfeeding in these women, for their own health and to decrease obesity in their at-risk offspring.

On page 7, Dr. Lois Donovan guides us through the IADPSG recommendations, which may lead to changes in clinical practice, if adopted. A major recommendation is that not every woman who develops diabetes in pregnancy requires the postpartum test to clarify her status. The recommendations suggest that the same criteria be used to diagnose type 2 diabetes in pregnancy as well as outside of pregnancy, and include a standardized A1C level above 6.5%. As well, a recommendation is made that every woman undergo a glucose evaluation with her first-trimester blood tests. This ideally would include a fasting plasma glucose (FPG) or random PG if fasting is not available, as well as an A1C test. In an effort to recognize and treat any early-in-pregnancy-onset GDM, the FPG is the preferred test since a first-trimester FPG ≥ 5.1 mmol/L (i.e. above the recommended diagnostic value in the 75-g oral glucose tolerance test [OGTT]) would automatically mean she would be treated for GDM.

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A more controversial aspect of the IADPSG guidelines is the recommendation that only a 75-g OGTT be used, i.e. to abandon the well-proven 50-g glucose screen. Also controversial is the new diagnostic criteria suggested (FPG > 5.1 mmol/L, 1-h PG > 10.0 mmol/L and 2-h PG > 8.5 mmol/L) and the recommendation that any single abnormal value would justify treatment. The impact this may have on the healthcare system remains to be evaluated, although a recent economic assessment would suggest that, at least in Canada, this may be an expensive option (5).

Regardless of how GDM is diagnosed, it is critical that clinicians use this opportunity to optimize glycemic control to obtain improved results for pregnant women and their offspring, immediately and in the long term (6,7). More importantly, recognition of abnormal glucose tolerance in pregnancy identifies a population of women who are at high risk for diabetes in the future (12.4 times that of the background population according to

a Canadian study), and who have associated metabolic syndrome and increased CV risk (8,9). Even women who remain normoglycemic in longer-term studies have an elevated risk of metabolic syndrome and CV risk factors (10). The offspring of women who convert to diabetes are the most at risk; thus, intervention with care in pregnancy—particularly in the long-term postpartum period—with lifestyle and any needed CV preventive care may decrease not only the risk for the woman, but also for her offspring (10).

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