Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV Transmission in the United States

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Protease Inhibitor Therapy and Hyperglycemia (Last updated July 31, 2012; last reviewed July 31, 2012)

Panel's Recommendation
• HIV-infected women taking antiretroviral drug regimens during pregnancy should undergo standard glucose screening at 24 to 28 weeks' gestation **(AIII)**. Some experts would perform earlier glucose screening in women receiving ongoing protease inhibitor-based regimens initiated before pregnancy, similar to recommendations for women with high risk factors for glucose intolerance **(BIII)**.
Rating of Recommendations: *A = Strong; B = Moderate; C = Optional*
Rating of Evidence: *I = One or more randomized trials with clinical outcomes and/or validated laboratory endpoints; II = One or more well-designed, nonrandomized trials or observational cohort studies with long-term clinical outcomes; III = Expert opinion*

Hyperglycemia, new-onset diabetes mellitus, exacerbation of existing diabetes mellitus, and diabetic ketoacidosis have been reported in HIV-infected patients taking protease inhibitors (PIs).[1-4] In addition, pregnancy is itself a risk factor for hyperglycemia. To date, however, the majority of studies have not shown an increased risk of glucose intolerance with PI-based regimens during pregnancy. One small retrospective study that included 41 women receiving PI-based combination antiretroviral (ARV) regimens found an increased risk of glucose intolerance, but not gestational diabetes, among women on combination ARV regimens compared with zidovudine alone,[5] although 2 other retrospective studies did not find an increased risk of glucose intolerance with PIs.[6, 7] Secondary analyses of 2 large cohorts did not find an association between the type of ARV regimen and gestational diabetes, except for an association between initiation of PIs before pregnancy or during the first trimester and gestational diabetes in the PACTG 316 cohort.[8, 9] Finally, a prospective study including detailed evaluations for glucose intolerance and insulin resistance among HIV-infected pregnant women did not find differences between women on PI-containing and non-PI-containing regimens.[10] In both groups, however, the rate of impaired glucose tolerance was high (38%), likely related to high body mass index and race/ethnicity among trial subjects.

HIV-infected women receiving ARV regimens during pregnancy should receive standard glucose screening at 24 to 28 weeks' gestation. Some experts would perform earlier glucose screening in women with ongoing PI-based ARV regimens initiated before pregnancy (particularly those of minority race/ethnicity), similar to recommendations for women with high risk factors for glucose intolerance, such as maternal obesity, advanced maternal age, and family history of type II diabetes mellitus.

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