HHS Public Access

Author manuscript

Obstet Gynecol. Author manuscript; available in PMC 2024 August 30.

Published in final edited form as:

Obstet Gynecol. 2015 December ; 126(6): 1303–1304. doi:10.1097/AOG.0000000000001168.

What Is New in Prevention of Perinatal Human Immunodeficiency Virus Transmission?:

Best Articles From the Past Year

Denise J. Jamieson, MD, MPH

Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Atlanta, Georgia

Committee Opinion No. 635: Prenatal and Perinatal Human Immunodeficiency Virus Testing: Expanded Recommendations

The American College of Obstetricians and Gynecologists has published updated recommendations for human immunodeficiency virus (HIV) testing in pregnancy. In addition to decreasing perinatal transmission, there are additional benefits to identifying and treating HIV-infected pregnant women. Growing evidence suggests that early antiretroviral therapy is beneficial for HIV-infected persons. In addition, treatment of HIV-infected persons decreases the risk of transmission to HIV-uninfected sexual partners.[1]

All pregnant women should be screened for HIV infection in each pregnancy. For women at high risk for HIV, testing should be repeated in the third trimester. Women who present to labor and delivery with undocumented HIV status should be offered expedited screening. If rapid test results are positive, antiretroviral prophylaxis should be started immediately while waiting for supplemental test results.

Bottom Line:

Now, more than ever, it is critical to ensure that pregnant women are tested in pregnancy, given advances in the prevention of perinatal HIV transmission as well as advances in HIV care and treatment. Health care providers who care for pregnant women should offer opt-out testing in each pregnancy, with repeat testing for those at high risk for HIV.

No Perinatal HIV-1 Transmission From Women With Effective Antiretroviral Therapy Starting Before Conception

A French multicenter cohort study prospectively followed 8,075 nonbreastfeeding HIV-infected pregnant women and their infants; all women received combination antiretroviral

djj0@cdc.gov.

Financial Disclosure

The author did not report any potential conflicts of interest.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

therapy. Overall, the HIV perinatal transmission rate was 0.7% (56/8,075). Most notably, among 2,651 women who were receiving combination antiretroviral therapy before pregnancy, continued therapy in pregnancy, and had a low viral load at delivery (less than 50 copies/mL), there were no perinatal HIV transmissions. The perinatal transmission rates for women who started combination antiretroviral therapy in the first, second, or third trimester were 0.4% (3/709), 0.9% (24/2,810), and 2.2% (23/1,051), respectively.

Bottom Line:

Human immunodeficiency virus–infected women on maximally suppressive antiretroviral therapy before and throughout pregnancy have a very low risk of transmitting HIV to their fetuses. This study supports the idea that the elimination of perinatal transmission of HIV may be possible in the United States.[2]

Missed Opportunities for Prevention of Mother-to-Child Transmission in the United States

Twenty-seven cases of perinatal HIV infection are described in Atlanta, Georgia, from 2005 to 2012. Among the 27 HIV-infected mothers, seven were not aware of their HIV status before pregnancy. Among the 20 mothers who knew they were HIV-infected, half did not receive prenatal care and half did not receive not receive antiretroviral therapy during pregnancy, delivery, or both. One woman who was not diagnosed with HIV until after delivery breastfed her infant for 3 months. This report highlights the importance of HIV testing in pregnancy, receipt of prenatal care, and linkage to comprehensive HIV care, including receipt of antenatal, intrapartum, and postnatal antiretroviral therapy, a plan for appropriate mode of delivery, and counseling regarding avoidance of breastfeeding.

Bottom Line:

This brief report is a cautionary tale about what can happen when current HIV guidance is not followed and there are breakdowns in the health care system. It is critical that HIV-infected pregnant women are identified as HIV-infected and receive appropriate prenatal care as well as comprehensive HIV care and treatment.

Antiretroviral Therapy in Relation to Birth Outcomes Among HIV-infected Women: A Cohort Study

This prospective observational study evaluates birth outcomes among a large group (N=3,314) of HIV-infected pregnant women. Because this study was conducted in Tanzania before the implementation of universal provision of combination antiretroviral therapy in pregnancy, it offers a rare opportunity to evaluate the effect of antiretroviral therapy in pregnancy with an appropriate control group for comparison. Compared with zidovudine monotherapy, starting antiretroviral therapy before pregnancy was associated with an increased risk of preterm delivery (adjusted relative risk [RR] 1.24; 95% confidence interval [CI] 1.05–1.47) and very preterm delivery (adjusted RR 1.42; 95% CI 1.02–1.99). Compared with zidovudine monotherapy, starting antiretroviral therapy during pregnancy

was associated with an increased risk of severe small for gestational age (adjusted RR 1.47; 95% CI 1.09–1.98). The regression models were appropriately adjusted for CD4 cell count.

Although other studies have found conflicting results, the finding that combination antiretroviral therapy during pregnancy is associated with adverse birth outcomes is consistent with a growing body of evidence. As pointed out in an accompanying editorial,[3] despite tremendous benefits for mothers and their infants, antiretroviral therapies used in pregnancy are not risk-free. These risks have not been well-documented, and additional studies are needed to maximize the health of HIV-infected women and their infants.

Bottom Line:

Despite the benefits of antiretroviral therapy for HIV-infected pregnant women, there are accompanying risks.

Biography

This month we focus on current research in perinatal human immunodeficiency virus transmission. Dr. Jamieson discusses four recent publications, which are concluded with a “bottom line” that is the take-home message. The complete reference for each can be found in Box 1 on this page, along with direct links to the abstracts.

REFERENCES

1. Cohen MS, Chen YQ, McCauley M, Gamble T, Hosseinipour M, Kumarasamy N, et al. Prevention of HIV-1 infection with early antiretroviral therapy. N Engl J Med 2011;365:493–505. [PubMed: 21767103]
2. Nesheim S, Taylor A, Lampe MA, Kilmarx PH, Fitz Harris L, Whitmore S, et al. A framework for elimination of perinatal transmission of HIV in the United States. Pediatrics 2012;130:738–44. [PubMed: 22945404]
3. Mofenson LM. Antiretroviral therapy and adverse pregnancy outcome: the elephant in the room? J Infect Dis 2015 August 10 [Epub ahead of print].

Box 1.

Articles Discussed in This Commentary

1. Prenatal and perinatal human immunodeficiency virus testing: expanded recommendations. Committee Opinion No. 635. American College of Obstetricians and Gynecologists. Obstet Gynecol 2015;125:1544–47. Available at: http://dx.doi.org/10.1097/01.AOG.0000466370.86393.d2.
2. Mandelbrot L, Tubiana R, LeChenadec J, Dollfus C, Faye A, Pannier E, et al. No perinatal HIV-1 transmission from women with effective antiretroviral therapy starting before conception. Clin Infect Dis 2015. Available at: http://dx.doi.org/10.1093/cid/civ578.
3. Camacho-Gonzalez AF, Kingbo MHY, Boylan A, Eckard AR, Chahroudi A, Chakraborth. Missed opportunities for prevention of mother-to-child transmission in the United States. AIDS 2015;29:1511–15. Available at: http://dx.doi.org/10.1097/QAD.0000000000000710.
4. Li N, Sando MM, Spiegelman D, Hertzmark E, Liu E, Sando D, et al. Antiretroviral therapy in relation to birth outcomes among HIV-infected women: a cohort study. J Infect Dis 2015. Available at: http://dx.doi.org/10.1093/infdis/jiv389.