



Florida/Caribbean AIDS Education and Training Center

# HIV CareLink

A Newsletter for HIV/AIDS Primary Care Providers

## ABOUT US

The Florida/Caribbean AIDS Education and Training Center provides state-of-the-art HIV education, consultation, and resource materials to health care providers in Florida, Puerto Rico and the US Virgin Islands.

Major funding is provided by the US Public Health Service's Health Resources Services Administration (HRSA) DHHS-HAB Grant No. H4AHA00049 through the University of South Florida Center for HIV Education and Research, Michael Knox, PhD, Director.

### EDITORS

Jeffrey Beal, MD, AAHIVS  
(239) 839-4645  
aetcbear@embarqmail.com

Joanne J. Orrick, PharmD, AAHIVE  
(352) 273-7845  
orricjj@ufl.edu

### PEDIATRIC EDITOR

Belinda Beauchamp, MD  
(787) 281-8501  
belinda.beauchamp@upr.edu

### MANAGING EDITOR

Kimberly Molnar, MAcc  
(813) 974-4430  
alfonso@fmhi.usf.edu

Volume 11 - Issue 3

June 18, 2010

## Special Bulletin: Updated 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

Released - May 24th 2010

**Amanda Cotter, MD, MRCOG, MRCPI, MSPH**

Associate Professor of Clinical Obstetrics and Gynecology (OB/GYN), Division of General Obstetrics and Gynecology, Director of Perinatal HIV Service, OB/GYN Division of Research and Special Projects, Miller School of Medicine, University of Miami

### Key issues and new information

- The introduction of the *Rating Scheme for Recommendations* guidelines are supported by scientific evidence and expert opinion, and based on the strength of the recommendation and the quality of the evidence. Each recommended statement is rated with the letter A, B, or C indicating a "Strong," "Moderate," or "Optional" recommendation, respectively, and with the numeral I, II or III, according to the quality of the evidence.
- The international clinical trials update, which includes trials of prevention of postnatal transmission and drug resistance in infants infected despite infant or maternal antiretroviral (ARV) prophylaxis of postnatal infection, confirms that in the U.S., breastfeeding is not suggested for HIV-infected women (including those receiving combination antiretroviral therapy (ART) or triple ARV drug prophylaxis) (**AII**).
- **In pregnancy, the "Preferred" nucleoside reverse transcriptase inhibitors (NRTI) regimen remains zidovudine/lamivudine and lopinavir/ritonavir remains the "Preferred" protease inhibitor (PI)**
  - Other ARV regimens are categorized as "Alternative," "Use in Special Circumstances," "Not Recommended," and "Insufficient Data to Recommend"
- **The decision of the optimal antepartum ARV regimen for an HIV/HSV co-infected woman is determined by whether she needs ART for her own health, hepatitis B virus (HBV) therapy, both, or neither**
  - A three-drug antepartum ARV regimen, including two agents with anti-HBV activity [e.g. tenofovir plus either (lamivudine or emtricitabine)], should be used during pregnancy and continued postpartum in co-infected women who require ART for their own health and/or who require HBV treatment and are expected to continue drugs postpartum (**BII**).
  - For co-infected women who do not require HBV therapy

and receive ARVs during pregnancy solely to prevent mother-to-child transmission of HIV, the options are more complex and include:

- A three-drug combination antepartum ARV regimen including two NRTIs with HBV activity, stopping prophylaxis following delivery (monitor closely for HBV flare following drug discontinuation) (**BIII**);
- A three-drug combination antepartum ARV regimen that includes only NRTIs which lack anti-HBV activity and stopping prophylaxis after delivery (**BIII**);
- A three-drug combination antepartum ARV regimen including lamivudine as the only anti-HBV agent could be considered for women presenting late in pregnancy, stopping prophylaxis following delivery (monitor closely for HBV flare following drug discontinuation) (**CIII**).

### Prevention of ARV drug resistance in pregnancy

If a non-nucleoside reverse transcriptase inhibitor (NNRTI)-containing ARV regimen is discontinued electively, the development of resistance to the other ARVs in the regimen is a concern due to the comparatively longer half-life of the NNRTIs. Consider either of the following: 1) stop the NNRTI first and continue the other ARVs for a period of time, or 2) switch the NNRTI to a PI and continue the PI with the other ARVs for a period of time. The best interval between stopping an NNRTI and the other ARV drugs is unknown, but at least 7 days is suggested. Given the potential for prolonged detectable NNRTI concentrations for more than 3 weeks in patients receiving efavirenz-based ART, some would consider continuing the other ARVs or substituting a PI for the NNRTI for up to 30 days (**CIII**).

### New information regarding resistance following discontinuation of triple drug prophylaxis postpartum

The NRTIs should be given for a minimum of 7 days after

For more information,  
please visit our website:

[www.FCAETC.org](http://www.FCAETC.org)

To request clinical consultation, please call the  
National Clinicians' Consultation Hotline:

**1-800-933-3413**

discontinuing the NNRTI to reduce the risk of resistance (AI). An alternative tactic is to substitute a PI for the NNRTI prior to the interruption and to continue the PI with dual NRTIs (CIII).

**New information from clinical trials on response to therapy following single dose nevirapine exposure**

The OCTANE trial in Africa compared nevirapine-based ART to lopinavir/ritonavir-based ART in women who had previous exposure to single dose nevirapine. Exposure to single dose nevirapine within 24 months of starting ART may be associated with a higher risk of virologic failure with nevirapine-based ART.

**New references on the use of dual NRTI "tail" to reduce risk of nevirapine resistance**

Studies have demonstrated that a short postpartum course of ARVs from alternate classes (a "tail") following intrapartum administration of single-dose nevirapine can considerably reduce nevirapine resistance. There is no consensus on the duration or composition of the tail. In the U.S. the use of maternal postpartum zidovudine/lamivudine for at least 7 days is recommended. The addition of single dose maternal-infant nevirapine to an ongoing combination ARV treatment or prophylaxis regimen does not reduce transmission further and may result in nevirapine resistance in the mother and/or infant and is not recommended (AI).

**Updated information on combination ARV drug use and pregnancy outcome**

The data is conflicting, but there is a possible increased risk of preterm birth in women who received PI-based combination regimens. However, given the clear benefits for maternal health and reduction in perinatal transmission, these agents should not be withheld because of the possibility of preterm delivery.

**Updated information on nevirapine hepatic toxicity in pregnancy**

The concern that pregnant women receiving nevirapine are at increased risk of hepatotoxicity is now being challenged by more recent data. An analysis of two multicenter prospective cohorts reported that pregnancy itself was a risk factor for elevated liver enzymes suggesting that nevirapine is no more toxic in pregnant women than in non-pregnant women. However, the recommendations for nevirapine use in pregnancy have not been changed. Visit page 65 in the Guidelines for further reading: <http://aidsinfo.nih.gov/contentfiles/PerinatalGL.pdf#page=70>

**Reorganization and update of mode of delivery section**

There is no change in the recommendation of a scheduled cesarean delivery for women with HIV RNA levels >1000 copies/mL near the time of delivery and for women with unknown HIV RNA levels. Decisions about mode of delivery for women with a HIV RNA <1000 copies/mL should be individualized. It remains unclear whether there is any benefit from an elective cesarean in women receiving combination therapy for several weeks. While the risk of

prematurity-related complications is increased in planned early term births prior to 39 weeks, the benefits of decreasing perinatal transmission by elective delivery at 38 weeks outweighs these risks. Gestational age should be determined by a woman's last menstrual period and ultrasound, while amniocentesis testing for fetal lung maturity should be avoided.

Patients should be advised about an increased risk of postpartum complications after a cesarean delivery, but these risks do not outweigh the benefits of prevention of perinatal transmission. It remains unclear how soon after the onset of labor or rupture of membranes the benefit of cesarean delivery is lost.

**Caution on use of lopinavir-ritonavir (and other boosted PIs) in newborns, particularly preterm infants, due to reports of cardiac toxicity**

There have been reports of two sets of premature infant twins who developed heart block after receiving lopinavir/ritonavir from birth. The heart block resolved after the discontinuation of lopinavir/ritonavir. Use of ARVs other than zidovudine cannot be recommended in premature infants as the data on dosing and safety are lacking.

**Discussion of new data on feeding infants premasticated food and risk of HIV transmission**

Three cases of delayed HIV transmission in infancy have recently been reported. In each situation, HIV infection is suspected to have resulted from infant consumption of premasticated food (pre-chewing of adult foods) provided by their HIV-infected caregivers. Phylogenetic comparisons of virus from cases and alleged sources, and supporting clinical history and investigations, identified the practice of feeding premasticated foods to infants as a potential risk factor for HIV transmission. Health care providers should routinely make inquiries about this feeding practice and instruct HIV-infected caregivers to avoid this practice and provide recommendations on safer feeding alternatives.

**National Perinatal HIV Hotline, 1-888-448-8765**

**References**

1. Panel on Treatment of HIV-Infected Pregnant Women and Prevention of Perinatal Transmission. 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. May 24, 2010; pp 1-117. Available at <http://aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf>. Accessed 6/9/10.
2. Pelto, G. H., Zhang, Y., & Habicht, J.P. (2009) Premastication: The Second Arm of Infant and Young Child Feeding for Health and Survival? *Maternal & Child Nutrition*, 6(1), 4-18. Available at <http://www3.interscience.wiley.com/cgi-bin/fulltext/122525377/HTMLSTART>. Accessed 6/17/10.

The complete collection of previous issues of HIV CareLink are available online.

To view past issues, please visit the archives at:

[www.FCAETC.org/Newsletter](http://www.FCAETC.org/Newsletter)