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Guidelines

for Use of HIV Antiretroviral Therapy in Pregnancy[1]

[1] The full perinatal guidelines are available at http://www.aidsinfo.nih.gov/

GUIDELINES: Use of Antiretroviral Drugs in Pregnancy[1]

- Providing antiretroviral (ARV) drugs during pregnancy, labor and to the infant is recommended for optimal prevention of HIV transmission.
- ARV therapy or ARV prophylaxis for prevention of perinatal HIV transmission is recommended to all pregnant women with HIV infection regardless of HIV RNA (viral load) or CD4+ count. Highly active ARV combinations, containing at least 3 drugs, are the standard of care.
- Start ARVs as soon as possible in pregnant women who require treatment (Rx), including in the first trimester. Start ARVs without delay after the first trimester or earlier for pregnant women who require ARVs for prophylaxis. ARVs are more effective when given for a longer duration.
- All 3-drug combinations should include 1 or more NRTIs known to cross the placenta (ZDV, 3TC, emtracitabine, stavudine, tenofovir, abacavir); ZDV and 3TC are preferred, unless there is severe toxicity or documented resistance.
- An HIV-infected woman should make the decision about ARV drugs during pregnancy after talking with her provider about the known and unknown benefits and risks of ARV drugs for her and her infant.

[1] The full perinatal guidelines are available at *http://www.aidsinfo.nih.gov/* 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. Sep. 14, 2011; pp 1-207.

ANTEPARTUM CARE

Initial evaluation

- Degree of immunodeficiency (CD4+ count/%)
- Viral load (VL)
- Accurate history (hx) of ARV use for Rx or prophylaxis
- HIV resistance testing and results of prior resistance testing
- Baseline CBC, renal, liver function tests
- HBV surface antigen, HCV screening (consult Guidelines for management if positive)

- Need for OI prophylaxis, including starting or continuing TMP-SMX if CD4+ <200 (For current guidelines, see: *http://aidsinfo.nih.gov/contentfiles/Adult_OI_041009.pdf*
- Evaluation of immunization status
- Counsel on safer sex, smoking cessation, avoidance of alcohol/drugs
- Discuss importance of ARV adherence

Women with no hx of ARVs (ARV-naïve)

- Start 3-drug combination ARV if woman meets criteria for non-pregnant adult (including in the 1st trimester)
- If woman does not require Rx for own health – start 3-drug combination ARV prophylaxis for prevention of perinatal transmission; as soon as possible or after 1st trimester. However, earlier initiation may be more effective
- Preferred combination ARVs are ZDV+3TC with either LPV/r or NVP (if CD4≤250)
- Use NVP as part of ARV regimen for women with CD4+ >250 **only** if benefit outweighs risk

Women currently on ARVs

- Continue regimen if VL undetectable (including NVP if stable)
- Avoid efavirenz (EFV) in 1st trimester
- Avoid d4T/ddI combination
- HIV resistance testing if detectable viremia (>500-1000 copies/mL) to inform possible change to regimen

Women with hx of ARV but not currently on ARVs

- Obtain accurate hx of all prior ARVs; obtain HIV resistance testing before starting ARV prophylaxis or Rx to inform ARV choice
- Assess adherence and tolerability issues
- Start combination ARV regimen based on results of resistance testing and hx
- Consult with HIV expert for choice of ARV for women previously treated
- Use NVP as part of ARV regimen for women with CD4+ >250 **only** if benefit outweighs risk

Monitoring during pregnancy

- CD^+ count at least every 3 months
- VL at 2-4 weeks after starting or changing ARVs, and then monthly until undetectable; then every 3 months
- VL at 34-36 weeks to inform decision about C-section (C/S)
- Monitor and manage known side effects of ARVs given
- Altering dosing may be required for LPV/r
- Consult HIV expert if VL not suppressed after adequate period

Acute HIV Infection in pregnancy

- If suspected, perform HIV antibody test and VL simultaneously
- If positive, start 3-drug combination ARVs immediately, pending results of resistance testing
- Perform 3rd trimester repeat HIV antibody testing for women known to be at risk, incarcerated, or in areas of higher incidence[2]

[2] Areas of higher incidence are defined by the CDC in MMWR: Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings - September 22, 2006 available at *http://www.aidsinfo.nih.gov/*

INTRAPARTUM MANAGEMENT

All HIV+ women

- ZDV (IV) recommended regardless of ARVs used antepartum
- Administer IV ZDV loading dose 2 mg/kg over 1 hr then 1 mg/kg/hr until delivery
- Avoid artificial rupture of membranes or fetal scalp monitoring unless obstetrically indicated
- If delivering vaginally, avoid instruments, forceps or vacuum extraction and/or episiotomy unless obstetrically indicated
- Consult Guidelines on management of postpartum hemorrhage when woman is on ARVs during pregnancy Avoid methergine if possible.

HIV+ women on ARV Rx

- Continue antepartum ARVs on schedule during labor and prior to scheduled C/S
- If on d4T, stop during labor while IV ZDV is running

HIV+ women on ARV Rx (continued)

- If fixed dose combination ARV regimen includes ZDV, continue other drug(s) orally while ZDV is given IV
- If on ARV but VL>1000 copies, scheduled C/S recommended before labor and membrane rupture
- Give newborn standard ARV prophylaxis* and continue through 6 wks.

HIV+ women in labor with no prior ARVs

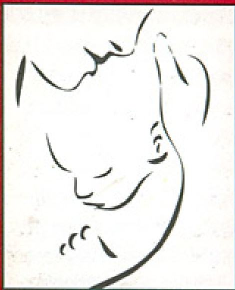
- Begin IV ZDV loading dose and continue ZDV until delivery
- Give newborn combination ARV prophylaxis† and continue through 6 wks.

Women of unknown HIV status who present in labor

- Recommend rapid HIV antibody testing. If positive, treat as above for HIV+ women in labor with no prior ARVs. Start ZDV without waiting for confirmatory results
- Give newborn combination ARV prophylaxis† and through 6 wks. If mother's confirmatory result is negative, stop infant ARV prophylaxis

Counseling regarding scheduled C/S

- Scheduled C/S recommended (at 38 wks.) for women on ARVs who have VL>1000 (or an unknown VL) near time of delivery
- Scheduled C/S not routinely recommended for women on ARVs with VL<1000
- Prophylactic narrow spectrum antibiotic at the time of C/S is generally recommended
- Women should be informed of the risks of C/S delivery as well as the potential benefits for the newborn



Postpartum Care of HIV+ Women and Neonates

- Breastfeeding is not recommended for HIV+ women in the U.S.
- Considerations regarding continuing ARVs after delivery are the same as for non-pregnant adults—degree of immunosuppression, adherence, side effects, partner HIV status, and childbearing plans
- Consult with HIV expert about stopping ARVs begun for perinatal prevention
- Discuss additional childbearing intentions; include counseling on reproductive and contraception options
- Reassess support services; the postpartum period poses unique challenges to adherence
- Women who are found to be HIV-infected during pregnancy require comprehensive medical assessment, counseling, and follow-up

NEONATAL CARE

Give newborn ARV prophylaxis and continue through 6 weeks of age

* Standard ARV prophylaxis: ZDV syrup 4mg/kg po BID, through 6 wks. as soon as possible and within 6-12 hrs. of birth

† Combination ARV prophylaxis: ZDV syrup 4mg/kg po STAT BID through 6 weeks plus 3 doses of NVP (at birth, 48 hrs., and 96 hrs.)

- Consult guidelines for neonatal NVP weight-based dosing

- Neonatal ZDV is recommended regardless of maternal ARVs or resistance history*
- Consult Guidelines for ZDV dosing in premature infants (<35 weeks)

Clarify mother's HIV status if still unknown

- Recommend rapid HIV testing of infant or mother as soon as possible after birth; if positive, start combination ARV prophylaxis† for infant STAT
- Send confirmatory HIV test as soon as possible. If confirmatory test is negative, discontinue ARV prophylaxis

Follow-Up Care For Infants Born To Mothers With HIV Infection

- Neonatal ARV prophylaxis regimen should be discussed with and taught to mother
- Perform CBC at baseline and then monitor for hematologic abnormalities, consult Guidelines for timing
- HIV DNA PCR or HIV RNA assays are the preferred virologic assays
- HIV virologic testing is recommended within 14-21 days of birth, at 1-2 months, and at 4-6 months
- Confirm first positive virologic test with second viral test as soon as possible
- HIV is diagnosed by 2 positive HIV virologic tests on separate blood samples
- HIV infection can be presumptively excluded in a non-breastfed infant with 2 or more negative virologic tests, one obtained at age ≥14 days and one at ≥1 month or one negative virologic test at ≥2 months; or one negative HIV antibody test at ≥ 6 months
- Definitive exclusion of HIV infection is based on 2 or more negative virologic tests performed at ≥ 1 month and ≥ 4 months (or 2 or more negative HIV antibody tests at ≥ 6 months)
- If infant HIV infection is confirmed, refer to pediatric HIV specialist for ongoing treatment and care
- TMP-SMX for PCP prophylaxis should be started at 4-6 wks. of age for all infants exposed to HIV until determined to be uninfected or presumptively uninfected
- Monitor all infants exposed to ARVs for signs of mitochondrial dysfunction (especially neurological problems)