Management of Neonates Born to HIV-Positive Women: A Guideline for SSM Health Hospitals

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Background Information for Guideline

The risk of Mother to Child Transmission (MTCT) of HIV can be significantly reduced by following the guidelines provided by the National Institute of Health (NIH) and endorsed by the American Academy of Pediatrics (AAP). The aim of this guideline is to standardize care for neonates born to HIV positive mothers in regard to HIV diagnostic testing, the use of antiretroviral therapy (ART), and follow-up planning.

SSM Cardinal Glennon Children's Medical Center works in conjunction with the Project ARK program to assist with all neonates born to HIV-positive women. Project ARK is a St. Louis-based, federally funded program to support children and adults with HIV.

Guideline Inclusion Criteria

This guideline is intended for neonates born to HIV-positive mothers at an SSM facility.

Guideline Exclusion Criteria

This guideline is not intended for:

(a) neonates with documented HIV infection (i.e. positive HIV RNA PCR)
(b) neonates > 48 hours of age
(c) Please call the Pediatric Infectious Diseases on-call attending physician for these circumstances

1. HIV-related Testing of the Neonate

a. As soon as feasible after birth, obtain a HIV-1 RNA PCR QUANTITATIVE and CBC with differential.
b. After discharge from the birth hospital, the neonate will have the following HIV testing schedule completed by the Pediatric Infectious Diseases service at SSM Cardinal Glennon (to be ordered by the ID service)
    i. 2-3 weeks of age: ID clinic visit and HIV-1 RNA PCR QUANTITATIVE
    ii. 6-8 weeks of age: ID clinic visit, HIV-1 RNA PCR QUANTITATIVE, CBC with differential (evaluation for anemia, neutropenia from AZT), adjust AZT dose based on weight gain
    iii. 4 months of age: ID clinic visit and HIV-1 RNA PCR QUANTITATIVE
c. Turn-around-time for HIV-1 RNA PCR QUANTITATIVE is typically 3-5 business days
d. If HIV-1 RNA PCR QUANTITATIVE is positive from the HIV PCR obtained at birth, page the Pediatric Infectious Diseases physician on call.

2. Prophylactic Antiretroviral Therapy for the Neonate

a. Antiretroviral therapy for the neonate will depend on a number of risk factors in regard to prenatal and perinatal care and divided into **low risk** or **high risk**
    i. **Low risk definition** (must meet all of the below criteria)

1. Neonates born to mothers who have received standard antepartum and intrapartum antiretrovirals
2. Mother has an undetectable viral load prior to delivery

ii. **High risk definition** (neonates with any of the following risk factors)
1. Neonates born to mothers who did not receive standard antepartum and intrapartum antiretrovirals
2. Mothers who have a detectable HIV viral load prior to delivery

iii. Note: the 2018 AAP Red Book recommends that HIV positive woman who are on antiretroviral therapy during pregnancy and have a viral load of <1000 copies/mL near delivery do not need intrapartum IV zidovudine. All other women should receive IV zidovudine.

b. **Management** of neonates defined as **low risk** stratified by gestational age
i. ≥ 35 weeks' gestation: oral AZT 4 mg/kg, twice daily, for the first 6 weeks of life
ii. ≥ 30 to < 35 weeks' gestation: oral AZT 2 mg/kg, twice daily for 14 days, then increase to 3 mg/kg, twice daily to complete a 6 week total course
iii. < 30 weeks' gestation: oral AZT 2 mg/kg, twice daily for 28 days, then increase to 3 mg/kg, twice daily to complete a 6 week total course
iv. If the baby cannot tolerate oral AZT, intravenous AZT can be used (see 2018 Red Book or Lexicomp for dosing)

c. **Management** of neonates defined as **high risk**
i. **Same AZT therapy listed above for the low risk** group **PLUS nevirapine**
ii. Nevirapine dosing is based on birth weight and should be given as soon as possible after delivery up to 48 hours of life (in addition to zidovudine)
1. birth weight 1.5–2 kg:
a. First dose: 8 mg per dose to be given after birth
b. Second dose: 8 mg per dose to be given 48 hours after the first dose
c. Third dose: 8 mg per dose to be given 96 hours after the second dose
2. birth weight > 2 kg:
a. First dose: 12 mg per dose to be given after birth
b. Second dose: 12 mg per dose to be given 48 hours after the first dose
c. Third dose: 12 mg per dose to be given 96 hours after the second dose

3. Follow-Up Plan for Neonates Being Discharged from their Birth Hospital

a. As soon as possible after delivery, please contact Nicole Carr RN who is the Perinatal Nurse Coordinator with Project ARK at (314) 458-7820 (alternative number: 314-652-2444 ext. 102). Typically, Project ARK staff will come to the birth hospital to meet with mom and her newborn before they are discharged to home.

b. Prior to discharge, all newborns born at SSM Hospitals in the St. Louis region should have follow up arranged with Aaron Miller, MD (Cardinal Glennon Hospital, Pediatric Infectious Diseases)
c. Prior to discharge, please arrange follow up with Dr. Miller by calling Theresa Forsythe at (314) 577-5644.

References

The above guideline was adapted from recommendations made by the following publications:

- NIH website: *https://aidsinfo.nih.gov/guidelines/html/3/perinatal/187/antiretrovial-managment-of-newborns-with-perinatal-hiv-exposure-or-perinatal-hiv*

- 2018 Red Book (published by the AAP)

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