

 <p style="text-align: center;">CREDIT VALLEY THE CREDIT VALLEY HOSPITAL</p>	CLINICAL PRACTICE GUIDELINE	PROFESSIONAL PRACTICE
TITLE: Human Immunodeficiency Virus (HIV) Management during Pregnancy and Following Delivery		
DATE OF ISSUE: 2006 11	PAGE 1 OF 8	NUMBER: CPG 8-1
SUPERCEDES: New	ISSUED BY: _____ TITLE: _____	
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Purpose

To provide a guideline for the obstetrical and neonatal management of women in the following four specific clinical settings:

- A. HIV positive women who have received appropriate antiretroviral therapy leading to a viral load of less than 1000 copies/mL (usually in consultation with an infectious diseases specialist).
- B. HIV positive women whose viral load is greater than 1000 copies/mL with therapy.
- C. HIV positive women whose viral load is greater than 1000 copies/mL without therapy.
- D. Women with unknown recent HIV status, but with risk factors for HIV before or during pregnancy.

To provide a guideline on the post-partum management of HIV-exposed infants:

- E. Infants born to HIV positive women who have not received antiretroviral therapy during pregnancy or intrapartum.
- F. Care of the HIV exposed infant from birth to six months of age

Definition:

Perinatal (or vertical) transmission of HIV is the transmission of HIV from an infected pregnant woman to her newborn child. Transmission can occur at any time during pregnancy. However, most transmission occurs during delivery, when the fetus makes contact with maternal blood and mucosa in the birth canal, or after delivery, through breastfeeding. Untreated HIV positive pregnant women have approximately a 25 percent risk of transmitting HIV to their newborns. Combination antiretroviral therapy, elimination of breastfeeding and intrapartum measures, have reduced maternal-fetal transmission rates to less than one percent.

Selection Criteria:

Inclusion

- Pregnant women known to be infected with HIV virus
- Pregnant women with risk factors for HIV infection who have not undergone routine HIV prenatal screening. Risk factors include:
 - Intravenous drug user
 - Origin from an HIV endemic country
 - Blood transfusion before 1986
 - Multiple sexual partners
 - Partner of an HIV-positive person
 - Partner of a person at risk for HIV as defined in above risk factors
- Infants born to HIV positive women or women with unknown HIV status with risk factors for HIV

Treatment and Monitoring:

Antiretroviral treatment can reduce the likelihood of transmission of HIV from mother to infant during pregnancy. Administering Zidovudine to the mother during the second and third trimester, during labour and delivery, and after delivery to the infant for 6 weeks is a minimum standard. Optimal management includes other antiretroviral agents in addition to Zidovudine to reduce the viral load to under 1000 copies/mL by delivery.

Prenatal Management

Combination antiretroviral therapy should be administered during pregnancy to bring viral load under 1000 copies/mL by 38 weeks. All patients should be referred to an infectious disease specialist for ongoing virologic and treatment monitoring.

Those who are already receiving therapy at the time of conception may elect to continue their treatment through the first trimester in some circumstances, in consultation with their infectious disease specialist.

Intrapartum Management, Mode of Delivery and Neonatal Management for Each of the Six Clinical Settings:

A. HIV Positive Women Who Have Received Appropriate Antiretroviral Therapy Leading to a Viral Load of less than 1000 copies/mL.

Intrapartum Management
<p>On admission to L&D give bolus of Zidovudine 2mg/kg intravenously over 1 hour and then 1 mg/kg/h continuous infusion until delivery.</p> <p>Avoid artificial rupture of membranes if labour is progressing.</p> <p>The duration of ruptured membranes should be minimized.</p> <p>Obstetrical procedures increasing the risk of fetal exposure to maternal blood, have been implicated in increasing vertical transmission rates.</p> <p>Avoid use of fetal scalp electrodes.</p> <p>If labour is not progressing consider active management with Oxytocin to shorten labour duration.</p> <p>Aggressively treat chorioamnionitis if present.</p>
Mode of Delivery
<p>Vaginal delivery is recommended.</p> <p>Operative delivery with forceps or vacuum extractor may increase the risk of transmission and should be avoided.</p>
Neonatal Management
<p>Wash infant thoroughly at time of delivery prior to performing any bloodwork and before Vitamin K administration.</p> <p>Cord blood should not be used to test the infant's HIV status because of the risk of contamination with the mother's blood.</p> <p>Breastfeeding is contraindicated.</p> <p>Gestational Age greater than or equal to 35 weeks Oral Zidovudine 2 mg/kg/dose q6h elixir should be given within 8 hours of birth and continued for six weeks. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q6h.</p> <p>Gestational Age 30 - 35 weeks Oral Zidovudine 2 mg/kg/dose q12h elixir should be given within 8 hours of birth. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q12h. Advance to every 8 hours at 2 weeks of age.</p> <p>Gestational Age less than 30 weeks Oral Zidovudine 2 mg/kg/dose q12h elixir should be given within 8 hours of birth. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q12h. Advance to every 8 hours at 4 weeks of age.</p> <p>A CBC and differential should be performed as a baseline evaluation and repeated at one month of age, especially if premature, to monitor for anemia.</p> <p>HIV - PCR to be done prior to discharge home and sent to the Division of Infectious Disease, The Hospital for Sick Children, Toronto (through CVH lab). Specimen must be collected in early morning Mon-Fri only.</p>

B. HIV Positive Women whose Viral Load is greater than 1000 copies/mL with Therapy

Intrapartum Management

For scheduled caesarean section delivery: Zidovudine 2mg/kg intravenously over 1 hour and then 1 mg/kg/h continuous infusion beginning 3 hours prior to caesarean section..

Maternal infectious morbidity is potentially increased. Use of prophylactic antibiotics at the time of caesarean section is recommended.

Management of women scheduled for caesarean delivery who present with ruptured membranes or in labour must be individualized.

Intravenous Zidovudine 2mg/kg over 1 hour and then 1 mg/kg/h continuous infusion should be started immediately since the women is in labour or has ruptured membranes.

If cervical dilatation is minimal and a long period of labour is anticipated, the clinician may begin the loading dose of Zidovudine and proceed as expeditiously as possible with caesarean delivery to minimize the duration of membrane rupture and avoid vaginal delivery. Alternatively, the clinician might begin oxytocin augmentation to enhance contractions and expedite delivery.

If labour is progressing rapidly, the women should be allowed to deliver vaginally.

Obstetrical procedures increasing the risk of fetal exposure to maternal blood, have been implicated in increasing vertical transmission rates.

Avoid use of fetal scalp electrodes.

Mode of Delivery

Scheduled caesarean section delivery at 38 weeks gestation is recommended.

Neonatal Management

Wash infant thoroughly at time of delivery prior to performing any bloodwork and before Vitamin K administration.

Cord blood should not be used to test the infant's HIV status because of the risk of contamination with the mother's blood.

Breastfeeding is contraindicated.

Gestational Age greater than or equal to 35 weeks Oral Zidovudine 2 mg/kg/dose q6h elixir should be given within 8 hours of birth and continued for six weeks. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q6h.

Gestational Age 30 - 35 weeks

Oral Zidovudine 2 mg/kg/dose q12h elixir should be given within 8 hours of birth. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q12h. Advance to every 8 hours at 2 weeks of age.

Gestational Age less than 30 weeks

Oral Zidovudine 2 mg/kg/dose q12h elixir should be given within 8 hours of birth. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q12h. Advance to every 8 hours at 4 weeks of age.

A CBC and differential should be performed as a baseline evaluation and repeated at one month of age, especially if premature, to monitor for anemia.

HIV - PCR to be done prior to discharge home and sent to the Division of Infectious Disease, The Hospital for Sick Children, Toronto (through CVH lab). **Specimen must be collected in early morning Mon-Fri only.**

C. HIV Positive Women whose Viral Load is greater than 1000 copies/mL without Therapy

Intrapartum Management

For scheduled caesarean section delivery: Zidovudine 2mg/kg intravenously over 1 hour and then 1 mg/kg/h continuous infusion beginning 3 hours prior to caesarean section.

Nevirapine 200 mg po at onset of labour or admission to L&D **AND** Zidovudine 600 mg orally at onset of labour/admission followed by Zidovudine 300 mg orally every 3 hours until delivery **AND** Lamivudine 150 mg orally at onset of labour followed by 150 mg orally every 12 hours until delivery. Continue Zidovudine/Lamivudine for 3-7 days postpartum to reduce nevirapine resistance.

Maternal infectious morbidity is potentially increased. Use of prophylactic antibiotics at the time of caesarean section is recommended.

Management of women scheduled for caesarean delivery who present with ruptured membranes or in labour must be individualized.

Intravenous Zidovudine 2mg/kg over 1 hour and then 1 mg/kg/h continuous infusion should be started immediately since the woman is in labour or has ruptured membranes. If cervical dilatation is minimal and a long period of labour is anticipated, the clinician may begin the loading dose of Zidovudine and proceed as expeditiously as possible with caesarean delivery to minimize the duration of membrane rupture and avoid vaginal delivery. Alternatively, the clinician might begin oxytocin augmentation to enhance contractions and expedite delivery.

Avoid obstetrical procedures increasing the risk of fetal exposure to maternal blood.

Avoid use of fetal scalp electrodes.

Mode of Delivery

Scheduled caesarean section delivery at 38 weeks gestation is recommended.

Neonatal Management

Wash infant thoroughly at time of delivery prior to performing any bloodwork and before Vitamin K administration. Cord blood should not be used to test the infant's HIV status because of the risk of contamination with the mother's blood.

Breastfeeding is contraindicated.

Gestational Age greater than or equal to 35 weeks Oral Zidovudine 2 mg/kg/dose q6h elixir should be given within 8 hours of birth and continued for six weeks. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q6h.

Gestational Age 30 - 35 weeks

Oral Zidovudine 2 mg/kg/dose q12h elixir should be given within 8 hours of birth. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q12h. Advance to every 8 hours at 2 weeks of age.

Gestational Age less than 30 weeks

Oral Zidovudine 2 mg/kg/dose q12h elixir should be given within 8 hours of birth. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q12h. Advance to every 8 hours at 4 weeks of age.

If mother received nevirapine, infant should receive nevirapine single dose 2 mg/kg oral dose at age 48-72 hours. ******(If the mother received nevirapine less than 1 hour prior to delivery, the infant should be given 2 mg/kg orally as soon as possible after birth and again at 48-72 hours).

A CBC and differential should be performed as a baseline evaluation and repeated at one month of age, especially if premature, to monitor for anemia.

HIV - PCR to be done prior to discharge home and sent to the Division of Infectious Disease, The Hospital for Sick Children, Toronto (through CVH lab). **Specimen must be collected in early morning Mon-Fri only.**

D. Women with Unknown Recent HIV Status, but with Risk Factors for HIV Before or During Pregnancy

Intrapartum Management
HIV status should be clarified prior to onset/induction of labour*.
Screen for Hepatitis B as well if no recent results are available.
If already in labour, it may be prudent to manage as per Clinical Setting C. until HIV results return negative.
Mode of Delivery
To be decided in consultation with Obstetrician and patient.
Neonatal Management
If infant is delivered prior to receiving maternal HIV results, it may be prudent to manage as per Clinical Setting C until HIV results return negative.
* The current test is performed at the Public Health lab. CVH Microbiology lab will arrange for transport of the specimen. Mon – Fri (8-4), call the Microbiology Lab at ext 6303. All other times, MRP must contact Duty Officer at the Public Health lab to confirm testing availability (phone 416-605-3113/1-800-640-7221) BEFORE calling CVH Microbiology lab.

Guidelines on the Management of HIV-exposed Infants:

E. Infants Born to HIV Positive Women Who Have Not Received Antiretroviral Therapy during Pregnancy or Intrapartum

Neonatal Management
Wash infant thoroughly at time of delivery prior to performing any bloodwork and before Vitamin K administration.
Cord blood should not be used to test the infant's HIV status because of the risk of contamination with the mother's blood.
Breastfeeding is contraindicated.
Gestational Age greater than or equal to 35 weeks Oral Zidovudine 2 mg/kg/dose q6h elixir should be given within 8 hours of birth and continued for six weeks. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q6h.
Gestational Age 30 - 35 weeks Oral Zidovudine 2 mg/kg/dose q12h elixir should be given within 8 hours of birth. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q12h. Advance to every 8 hours at 2 weeks of age.
Gestational Age less than 30 weeks Oral Zidovudine 2 mg/kg/dose q12h elixir should be given within 8 hours of birth. For infants that cannot tolerate oral intake, the intravenous dose is 1.5 mg/kg/dose q12h. Advance to every 8 hours at 4 weeks of age.
A CBC and differential should be performed as a baseline evaluation and repeated at one month of age, especially if premature, to monitor for anemia.
HIV - PCR to be done prior to discharge home and sent to the Division of Infectious Disease, The Hospital for Sick Children, Toronto (through CVH lab). Specimen must be collected in early morning Mon-Fri only.

References:

Bureau of HIV/AIDS, STD and TB Update Series Centre for Infectious Disease Prevention and Control: Perinatal Transmission of HIV. (www.hc-sc.gc.ca)

Canadian Paediatric Statement: Testing for Human Immunodeficiency Virus Type 1 (HIV-1) Infection in Pregnancy. Vol. 6, No. 9, November 2001.

Canadian Paediatric Society. Evaluation and Treatment of the Human Immunodeficiency Virus-1-Exposed Infant. Vol 9 No 6 July/August 2004. (www.cps.ca)

Public Health Service Task Force Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission in the United States. November 17, 2005 (www.AIDSinfo.nih.gov)

SOGC Guideline: Mode of Delivery for Pregnant Women infected by the Human Immunodeficiency Virus. No.101, April 2001.

Approval:

The Department of Obstetrics and Gynecology: September 2006

The Department of Paediatrics: September 2006

Perinatal Programme Steering Committee: October 2006

Nursing Practice: September 26, 2006

Pharmacy and Therapeutics Committee: September 12, 2006

Professional Practice Committee: October 2006

Medical Practice Committee: October 2006

Medical Advisory Committee: November 2006