The Management of HIV-Positive Pregnant Women
Goals of Antiretroviral Therapy

Treatment of mother

Protection of fetus
Mother to Child Transmission of HIV

- Maternal
- Placental
- Fetal
- Transvaginal
- Transplacental
- Obstetrical
Timing of Transmission

1 / 3
Antepartum (in utero)

2 / 3
peripartum

Birth
Variables Associated with Perinatal Transmission

- **Viral Factors**
  - Maternal HIV RNA level
  - Strain Variation
  - Plasma vs. Genital tract viral load
  - Genotypic Resistance

- **Maternal**
  - STDs
  - Vitamin A Deficiency
  - CD4 cell count
  - Substance abuse
  - Cigarette smoking
  - Use of Antiretrovirals
  - Sexual Behavior

- **Obstetrical Factors**
  - Duration of Ruptured Membranes
  - Placental disruption-including abruption or chorioamnionitis
  - Invasive fetal monitoring
  - Episiotomy, forceps
  - Vaginal Delivery

- **Fetal Factors**
  - Immature immune system
  - Gestational Age at delivery

- **Breastfeeding**
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Perinatal Transmission Rate by Maternal HIV-1 RNA - WITS

Rate of Perinatal HIV-1 Transmission by ARV Therapy category

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<th>Therapy Category</th>
<th>ACTG 076</th>
<th>ACTG 185</th>
<th>French Trial</th>
<th>No Rx</th>
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<td>Combo + PI</td>
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</table>
AZT

- Placental passage of AZT is excellent
- That of other ARVs is variable
- When combination ARV therapy is initiated during pregnancy, AZT should be included as a component of antenatal therapy whenever possible
- If antenatal AZT use is not possible, at least one agent with known transplacental passage should be part of the ARV regimen
Combination Therapy

Two nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs)

plus

protease inhibitor (PI), non-nucleoside reverse transcriptase inhibitor (NNRTI), or integrase inhibitor
Optimal Intervention = Prevention of Transmission

- **No Therapy**: 25-30%
- **Therapy in Labor**: 9-13%
- **Optimal therapy** (throughout pregnancy and delivery): <1%

References:
- Wade, et al. 1998 NEJM 339;1409-14
- Guay, et al. 1999 Lancet 354;795-802
- Fiscus, et al. 2002 Ped Inf Dis J 21;664-668
- Moodley, et al. 2003 JID 167;725-735
Acute HIV Infection
Seroconversion in Pregnancy

- Most seroconversions in pregnancy are not detected
- Viremia associated with acute infection increases risk of MTCT
- Many national guidelines do not recommend combination therapy for women with high CD4
- Generally few national guidelines for acute infection in pregnancy exist
IMPLICATIONS FOR ASPIRE
Implications for ASPIRE

- Pregnant women who seroconvert
  - Monthly HIV testing will lead to prompt diagnosis
  - These women will have high viral loads and high CD4 counts
  - National guidelines in place may not recommend combination therapy
  - It is our ethical obligation to see that our participants get optimal care
Implications for ASPIRE

Pregnancy + Seroconversion

Immediate Combination Therapy
Implications for ASPIRE

- Your site will have to negotiate with HIV providers
- Please notify PSRT of these situations
Implications for ASPIRE

- Seroconverters who become pregnant
  - Monthly pregnancy testing will lead to prompt diagnosis
  - Imperative that these women receive antiretrovirals in accordance with your national standard of care for the prevention of MTCT
  - Please notify PSRT of these situations
What Are Your Plans?