HIV in Pregnancy

First prenatal visit

Standard initial prenatal care labs plus:
- CBC with differential, electrolytes (including Ca, Mg, PO4)
- AST, ALT, total bilirubin, albumin, lipase, GGT, G6PD level, HgbA1C
- PPD (no controls), or TB Quantiferon
- Hepatitis A and C antibodies, Hep-BSA
- Toxoplasma IgG for baseline status
- Herpes simplex virus 1 and 2 IgG antibody for baseline status
- CMV IgG antibody for baseline status
- Send HIV genotype testing [A]
- CD4 count, HIV viral load

Refer to Infectious Disease Service and High Risk OB clinic [B]
If previously on antiviral regimen do not change without discussing with Infectious Disease doctor or perinatal HIV consultation
If not on regimen, medication regimen to be decided

Subsequent visits

- If CD4 < 200, give PCP prophylaxis (Bactrim DS QD)[1]
- If CD4 < 50, add prophylaxis (Azithromycin 1200mg)[2]
- Obtain monthly viral load, CBC, chemistry, LFTs, CD4 count q3 months if baseline CD4 is < 300.
- Begin post-partum contraception counseling
- If evidence of AIDS or worsening disease, perform growth scans monthly starting at 28 weeks
- Growth scan at 32 weeks

Increased LFT's →
- Repeat LFT's and lactic acid in 2 days
- If > 2X above baseline, consult immediately.[C]

34-36 Weeks

Viral load < 1000 copies/ml →
Counsel regarding no difference in vertical transmission rate with elective C/S[3]

Viral load > 1000 copies/ml →
Counsel regarding <2% rate of vertical transmission with elective C/S[4]

Declines C/S ←
Desires scheduled →

Elects vaginal delivery →
- Await spontaneous labor
- If patient lives at distance or history of fast labor, consider induction of labor for controlled delivery
- Upon admission to L & D, give ZDV 2 mg/kg/hr IV load, followed by 1mg/kg/hr drip*
- Continue all ART meds as scheduled during labor
- Delay AROM, no FSE, avoid assisted delivery [5,6, E]
- Avoid Methergine if postpartum hemorrhage if patient is on a Protease Inhibitor[8]
- May need additional uterotonics if patient taking nevrapine, efavirenz or etravrine[8]

*IV zidovudine should be administered if HIV RNA >1,000 copies/mL (or unknown HIV RNA) near delivery, but it is not required if receiving combination ARV regimens and have HIV RNA ≤1,000 copies/mL consistently during late pregnancy and near delivery and no concerns regarding adherence to the regimen. Avoid magnesium sulfate and AZT in same IV line[8,D]

- Admit at 38 weeks
- Load with ZDV 2mg/kg/1hr three hours prior to C/S* followed by 1 mg/kg/hr until cord clamp
- Continue all ART meds as scheduled

Post-partum
- Continue ART regimen
- Contraceptive counseling – encourage LARC immediately PP
- Schedule clinic follow-up in 2-4 weeks
- Counsel regarding NO breast feeding [7,D]
- Confirm Pediatric follow-up for infant, and counsel mother on administration of AZT to infant

UNC Notes
A When ordering a genotype, write in comments "OK by Dr. Farel".
B Notify Dr. Rahangdale (pager 919-347-0453) and refer to Clinic (919-966-7199). Schedule in Mon AM MFM Fellows Clinic
C Consult Pager 919-216-0626
D Contact Dr. Rahangdale if not giving IV AZT or if patient desires breastfeeding
E Notify Peds Social Worker and Tom Belhorn at delivery

References

1) CDC, Guidelines for prophylaxis against *Pneumocystis carinii* pneumonia for persons infected with human immunodeficiency virus. **MMWR 1989;38 (S- 5):1-9.** *Adults and adolescents who have HIV infection (including pregnant women and those on HAART) should receive chemoprophylaxis against PCP if they have a CD4+ T-lymphocyte count of less than 200/µL.*

2) Masur H and the Public Health Service Task Force on prophylaxis and therapy for *Mycobacterium avium* complex. Recommendations on prophylaxis and therapy for disseminated *Mycobacterium avium* complex disease in patients infected with the human immunodeficiency virus. **N Engl J Med 1993;329:898-904.** *Adults and adolescents who have HIV infection should receive chemoprophylaxis against disseminated MAC disease if they have a CD4+ T-lymphocyte count of less than 50 cells/µL.*

3) Mofenson LM, Lambert JS, Stiehm ER, Bethel J, Meyer WA, Whitehouse J et al. Risk factors for perinatal transmission of human immunodeficiency virus type 1 in women treated with zidovudine. Pediatric AIDS Clinical Trials Group Study 185 Team. **N Engl J Med 1999;341:385-393.** *There was no perinatal transmission of HIV-1 among the 84 women who had HIV-1 levels below the limit of detection at base line or the 107 women who had undetectable levels at delivery.*

4) The European Mode of Delivery Collaboration. Elective caesarean-section versus vaginal delivery in prevention of vertical HIV-1 transmission: A randomized clinical trial. **Lancet 1999;353:1035-9.** *Three (1.8%) of 170 infants born to women assigned caesarean-section delivery were infected, compared with 21 (10.5%) of 200 born to women assigned vaginal delivery (p<0.001).*

5) Minkoff H, Burns DN, Landesman S, et al. The relationship of the duration of ruptured membranes to vertical transmission of human immunodeficiency virus. **Am J Obstet Gynecol 1995;173:585-9**. *Women were significantly more likely to transmit human immunodeficiency virus to their offspring if the duration of rupture of membranes was greater than or equal to 4 hours.*

6) Anonymous. Risk factors for mother-to-child transmission of HIV-1. The European collaborative study. **Lancet 1992;339:1007-12.** *The odds-ratio for vertical transmission for breast-fed children was 2.25. Transmission was higher with episiotomy, fetal scalp electrodes, forceps, or vacuum extractors were used.*

7) Read JS; the American Academy of Pediatrics Committee on Pediatric AIDS. Human milk, breastfeeding, and transmission of human immunodeficiency virus type 1 in the United States. **Pediatrics 2003; 112:1196-205.** *Complete avoidance of breastfeeding by HIV-1-infected women remains the only means by which prevention of breastfeeding transmission of HIV-1 can be absolutely ensured.*

8) Reference: https://aidsinfo.nih.gov/Guidelines/HTML/3/perinatal-guidelines/0

Revised: 6/23/2016 LR