**HIV and Pregnancy**

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**Learning Objectives**

1. Develop a framework for addressing preconception planning among women of childbearing potential who are living with HIV/AIDS.
2. Understand the risk of perinatal transmission of HIV and transmission during breastfeeding
3. Identify treatment guidelines for a woman of childbearing potential living with HIV
4. Review guidelines for post-exposure prophylaxis for infants born to mothers living with HIV

**Case 1:**

JH is a 28-year-old woman with well-controlled HIV who presents to clinic with her male partner, who is HIV negative, for preconception counseling. She states that she has been overall feeling well, and is taking her Odefsey (TAF/3TC/RPV) daily without any missed doses.

She has been virally suppressed for over 2 years on routine lab testing, and her CD4 has consistently been > 500. She and her partner are sexually active, monogamous for the past two years, and always use condoms.

They are ready to have children but JH is concerned about HIV transmission to her partner, and to her child.

1. **Outline an approach for addressing preconception planning among women of childbearing age who are living with HIV.**

1. **What is the risk of maternal to child HIV transmission? What factors are involved in risk?**
2. **What is the risk of transmission of HIV from a HIV-positive partner to a HIV-negative partner?**

**CASE 2:**

AT is a 24 year-old G1P0 woman who is referred to you from Maternal-Fetal Medicine for newly diagnosed HIV. She has a VL 45,000 and CD4 450. Her GA is 10w3d, and this is a desired pregnancy.

She presents to your clinic with her partner who is also HIV positive. She has not seen a medical provider since she was 20-years old and no longer received medical care with her pediatrician. She has never had any STI testing. Her partner recently established HIV care at another local clinic and is on active cART.

1. **Should all pregnant women be screened for HIV?**
2. **How do you approach initiating antiretroviral treatment in a pregnant patient with HIV?**
3. **Does maternal ARV treatment confer risk to the fetus?**

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| **CASE 2 continued:**  AT was started on Atazanavir boosted with ritonavir (ATV/r), Tenofovir (TDF), and emtricitabine (FTC). She is adherent to her medications, and has not missed any doses. Within one month of cART initiation, her VL is UD, and CD4 is stable at 500. Genotype revealed WT virus. Her partner is also on stable treatment with UD viral load.  She is seen for routine follow up at GA 20w, and has several concerns about the risks of transmission to her fetus both during pregnancy and at the time of delivery. She prefers to deliver vaginally, but has heard that this can increase transmission risk. |

1. **What are the guidelines on carrying a pregnancy to term in patients living with HIV? How should you counsel your patient about the risks of a vaginal delivery versus caesarean section?**
2. **What are the guidelines for post-exposure prophylaxis for the infant?**
3. **How often should you follow her in clinic?**

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| **Case 2 continued:**  AT carries her pregnancy to term and has an uncomplicated vaginal delivery. Her daughter is evaluated by a pediatric HIV provider, with a plan for HIV testing at 14d and 4 weeks of ZDV treatment.  On her follow up appointment with you, she tells you she has received mixed messages about safety of breastfeeding from friends, family, and various providers, and asks you today about guidelines on breastfeeding. |

1. **What are the recommendations for breastfeeding in the United States for women who are living with HIV?**

**CASE 3:**

MT is a 30-year-old woman with well-controlled HIV and undetectable VL who presents to clinic with her male partner, who is also HIV positive with a VL that is undetectable.

She has a regular menstrual cycle, but missed her period last month. She is on Odefsey (TAF/3TC/RPV) daily without any missed doses. She has been virally suppressed for 5 years, and her CD4 has consistently been >200. She and her partner are sexually active, monogamous, and this is a desired pregnancy.

1. **What are the guidelines for adjusting treatment of pregnant women living with HIV who are already on cART?**

**Recommended Reading:**

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. AIDSinfo. <https://aidsinfo.nih.gov/contentfiles/lvguidelines/perinatalgl.pdf>

Panel on Antiretroviral Therapy and Medical Management of HIV-infected Children. Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. Diagnosis of HIV infection in Infants and Children. Nov 2017. <https://aidsinfo.nih.gov/guidelines/html/2/pediatric-arv-guidelines/55/diagnosis-of-hiv-infection-in-infants-and-children>

National Perinatal HIV Hotline (1-888-448-8765) – federally funded service providing free clinical consultation

***Additional Resources:***

Ioannidis et al. Perinatal transmission of human immunodeficiency virus type 1 by pregnant women with RNA virus loads <1000 copies/ml. J Infect Dis. 2001; 183(4):539. https://www.ncbi.nlm.nih.gov/pubmed?term=11170978

Lugga et al. No HIV transmission from virally suppressed mothers during breastfeeding in rural Tanzania. J Acquir Immune Defic Syndr. 2018 May 16. https://www.ncbi.nlm.nih.gov/pubmed/29781882

Mandelbrot et al. No perinatal HIV-1 transmission from women with effective antiretroviral therapy starting before conception. Clin Infect Dis. 2015; 61(11):1715. https://www.ncbi.nlm.nih.gov/pubmed?term=26197844

Rodger AJ, Cambiano V, Bruun T, et al. Sexual activity without condoms and risk of HIV transmission in serodifferent couples when the HIV-positive partner is using suppressive antiretroviral therapy. JAMA. 2016; 316: 171-181.

Siegfried et al. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection. Cochrane Database Syst Rev. 2011. https://www.ncbi.nlm.nih.gov/pubmed?term=21735394

Shetty A, and Maldonado Y. HIV transmission Prevention of Perinatal HIV-1 Transmission in the United States. NeoReview from American Academy of Pediatrics.

Warszawksi et al. Mother-to-child HIV transmission despite antiretroviral therapy in the ANRS French Perinatal Cohort. AIDS. 2008; 22:289-99. <https://www.ncbi.nlm.nih.gov/pubmed/18097232>

Rahangdale L et al. Integrase Inhibitors in late pregnancy and rapid HIV viral load reduction. Am J Obstet Gynecol. 2016; 214: 385. https://www.ncbi.nlm.nih.gov/pubmed/26928154

**Resources for patients**

HIV and Pregnancy. ACOG. <https://www.acog.org/Patients/FAQs/HIV-and-Pregnancy>

HIV and Pregnancy. https://www.avert.org/sites/default/files/fact-sheet-hiv-pregnancy-2016.pdf