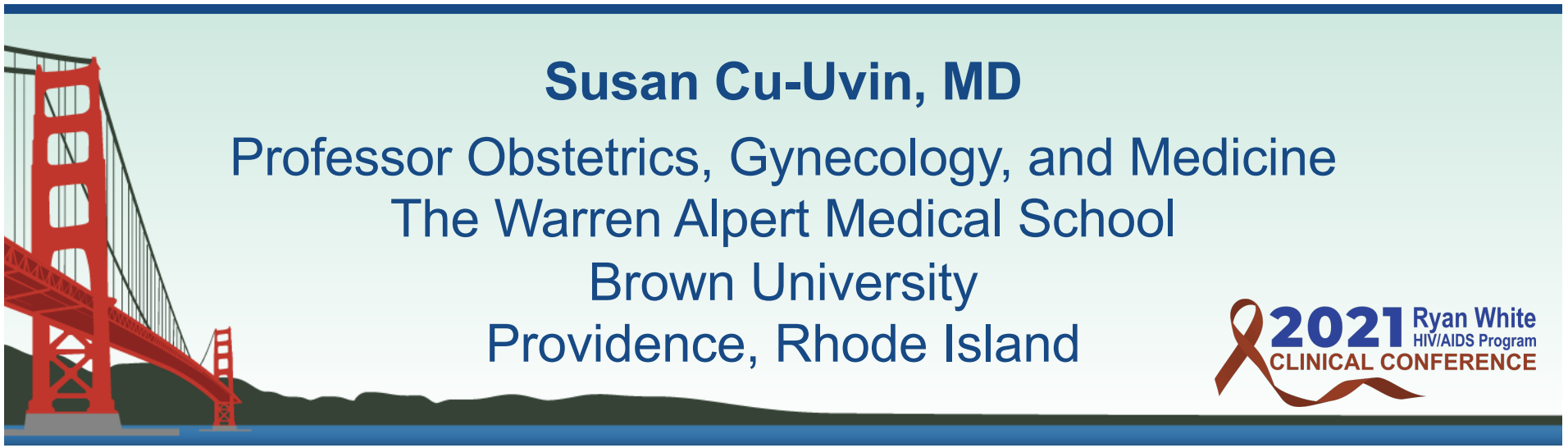
Perinatal HIV Care and Prevention: A Case-Based Discussion



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2021 Ryan White HIV/AIDS Program CLINICAL CONFERENCE

Financial Relationships With Ineligible Companies (Formerly Described as Commercial Interests by the ACCME) Within the Last 2 Years

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Learning Objectives

After attending this presentation, learners will be able to:

- Select the recommended antiretroviral therapy for women planning to get pregnant and during pregnancy
- Initiate treatment for acute HIV infection during pregnancy
- Initiate preexposure prophylaxis to prevent HIV transmission during pregnancy
- Describe HIV infection- and breastfeeding-related issues

Case 1:

A 28 y.o. (G1P0) with newly diagnosed HIV infection discovered during prenatal visit

10 weeks age of gestation by ultrasound dating

Asymptomatic

Initial: CD4 count of 300 cells/ul and HIV-RNA 300,000c/mL

Other labs are normal, no other medical co-morbidities, awaiting HLA-B5701 result

What regimen would you choose?

- 1. DTG/ABC/FTC
- 2. DTC/ TDF/FTC
- 3. EFV/TDF/3TC
- 4. RPV/TDF/FTC
- 5. BIC/TAF/FTC

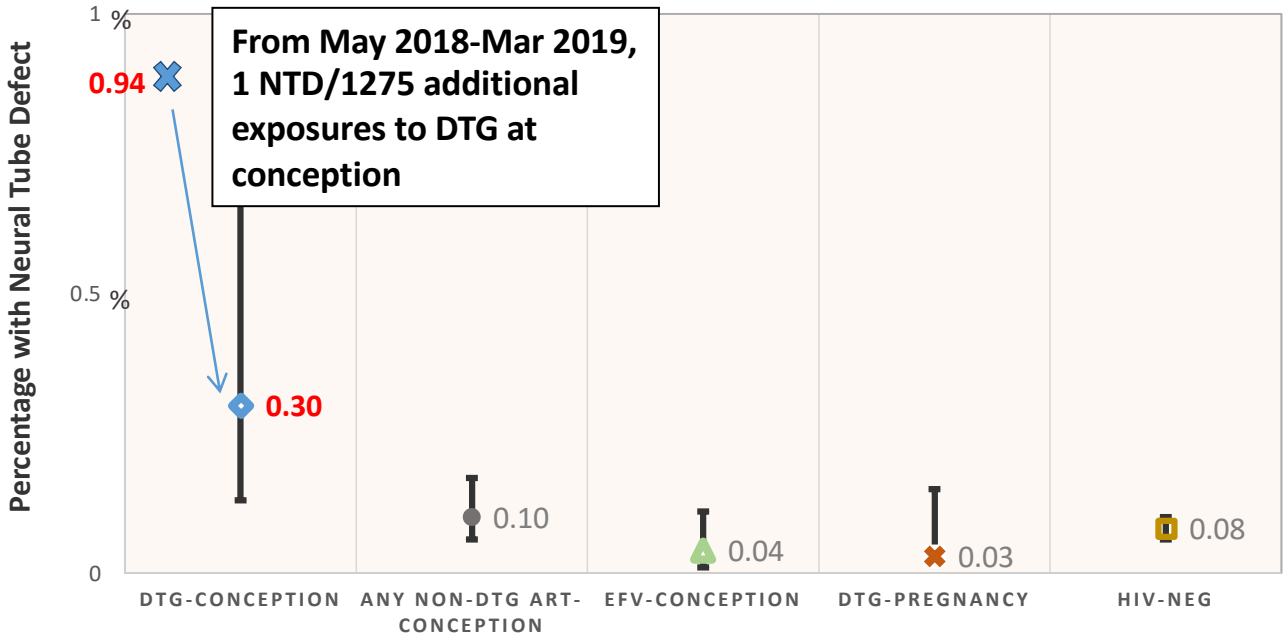
Which antiretrovirals are not currently recommended for pregnancy

- 1. BIC/ TDF/FTC
- 2. DTG/ABC/FTC
- 3. DRV/cobicistat
- 4. ATV/cobicistat
- 5. #1,3 and 4

Preferred Initial Regimens in Pregnancy

NRTIs Backbones	ABC/3TC (not to be used in persons positive for HLA B-5701 TDF/FTC or TDF/3TC (potential renal toxicity of TDF)
INSTIs	DTG/ABC/3TC (FDC) (requires HLA B-5701 testing) DTG plus a Preferred Dual-NRTI Backbone RAL plus a Preferred Dual-NRTI Backbone (RAL has to be given twice daily)
Protease Inhibitors	ATV/r plus a Preferred Dual-NRTI Backbone DRV/r plus a Preferred Dual-NRTI Backbone

Tsepamo Results as of March 2019



NTDs/Exposures	5/1683	15/14792	3/7959	1/3840	70/89372
% with NTD (95% CI)	0.30% (0.13, 0.69)	0.10% (0.06, 0.17)	0.04% (0.01, 0.11)	0.03% (0.0, 0.15)	0.08% (0.06, 0.10)
Prevalence Difference (95% CI)	**ref**	**0.20% (0.01, 0.59)**	**0.26% (0.07, 0.66)**	**0.27% (0.06, 0.67)**	**0.22% (0.05, 0.62)**

Zash et al.
NEJM 2019

Case 2

- 35 y.o. PLHIV, G3P2, had a negative HIV test at her first trimester visit. She went to visit her spouse and family in Zambia during her pregnancy. Her obstetrician considered her high risk of acquiring HIV and did a third trimester HIV testing at 34 weeks AOG when she resumed prenatal care. She has seroconverted and is now HIV positive.
- Her CD4 count is 100 cells/ul and PVL is 400,000 c/mL
- She is asymptomatic and all other labs are normal.
- HLA B-5701 testing results take 2 weeks
- HIV genotyping was sent

What is the best medical decision for this patient?

- 1. Wait for HIV genotypic testing before starting antiretroviral therapy
- 2. Wait for HLA-B5701 results because ABC is recommended treatment for pregnant patients
- 3. Start antiretroviral treatment immediately to attain rapid viral suppression with DTG/TDF/FTC and start PCP prophylaxis
- 4. Start antiretroviral therapy but she does not need PCP prophylaxis

Pneumocystis Pneumonia Prophylaxis

Recommendations for Preventing and Treating *Pneumocystis* Pneumonia

Preventing First Episode of PCP (Primary Prophylaxis)

Indications for Initiating Primary Prophylaxis:

- CD4 count <200 cells/mm³ **(AI)** *or*
- CD4 percentage <14% of total lymphocyte count **(BII)** *or*
- CD4 count >200 cells/mm³, *but* <250 cells/mm³ if ART initiation must be delayed and if CD4 count monitoring (e.g., every 3 months) is not possible **(BII)**.

Note: Patients who are receiving pyrimethamine/sulfadiazine for treatment or suppression of toxoplasmosis do not require additional prophylaxis for PCP **(AII)**.

Preferred Therapy:

- TMP-SMX, 1 DS tablet PO daily[a] **(AI)** *or*
- TMP-SMX, 1 SS tablet PO daily[a] **(AI)**

Alternative Therapy:

- TMP-SMX 1 DS tablet PO three times weekly **(BI)** *or*
- Dapsone[b,c] 100 mg PO daily or dapsone 50 mg PO twice a day **(BI)** *or*
- Dapsone[b] 50 mg PO daily with (pyrimethamine 50 mg plus leucovorin 25 mg) PO weekly **(BI)** *or*
- (Dapsone[b] 200 mg plus pyrimethamine 75 mg plus leucovorin 25 mg) PO weekly **(BI)** *or*
- Aerosolized pentamidine[c] 300 mg via Respigard II™ nebulizer every month **(BI)** *or*
- Atovaquone 1500 mg PO daily with food **(BI)** *or*
- (Atovaquone 1500 mg plus pyrimethamine 25 mg plus leucovorin 10 mg) PO daily with food **(CIII)**.

Indication for Discontinuing Primary Prophylaxis:

- CD4 count increased from <200 cells/mm³ to ≥200 cells/mm³ for ≥3 months in response to ART **(AI)**
- Can consider when CD4 count is 100–200 cells/mm³ and HIV RNA remains below limit of detection of the assay used for ≥3 months to 6 months **(BII)**

Indication for Restarting Primary Prophylaxis:

- CD4 count <100 cells/mm³ regardless of HIV RNA **(AIII)**
- CD4 count 100–200 cells/mm³ and HIV RNA above detection limit of the assay used **(AIII)**

Case 3

- H.W. is 21 y.o. with perinatal infection. She comes to clinic due to amenorrhea of 10 weeks. Her pregnancy test is positive. She has been exposed to several antiretrovirals since birth. Cumulative HIV resistance testing shows the following mutations: K65R, M184V, K103. Her CD4 count is 386 cell/ul and her PVL is <20 on DTG with DRV/r.

What would you do?

- 1. Send for integrase resistance testing and entry inhibitors resistance testing
- 2. Absolutely change her current regimen because she has no recommended NRTI backbone in her current regimen
- 3. She should continue her antiretroviral therapy during pregnancy because the regimen is effective in suppressing viral replication
- 4. Consider adding maraviroc to her current regimen

ART Regimen Component	ART for Pregnant People Who Have Never Received ARV Drugs and Who Are Initiating ART for the First Time	Continuing ART for People Who Become Pregnant on a Fully Suppressive, Well-Tolerated Regimen	ART for Pregnant People Who Have Received ARV Drugs in the Past and Who Are Restarting ART[a]	New ART Regimen for Pregnant People Whose Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive[a]	ART for Nonpregnant People Who Are Trying to Conceive[a,b]
Integrase Strand Transfer Inhibitor (INSTI) Drugs Used in combination with a dual-nucleoside reverse transcriptase inhibitor (NRTI) backbone[c]					
DTG	Preferred	Continue	Preferred	Preferred	Preferred
RAL	Preferred	Continue	Preferred	Preferred	Preferred
BIC	Insufficient data	Insufficient data	Insufficient data	Insufficient data	Insufficient data
EVG/c[d]	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
Protease Inhibitor (PI) Drugs Used in combination with a dual-NRTI backbone[c]					
ATV/r	Preferred	Continue	Preferred	Preferred	Preferred
DRV/r	Preferred	Continue	Preferred	Preferred	Preferred
LPV/r	Not recommended, except in special circumstances	Continue	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
ATV/c[d]	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended
DRV/c[d]	Not recommended	Continue with frequent viral load monitoring or consider switching	Not recommended	Not recommended	Not recommended

Case 4

- T.W. is 31 y.o. G2P2, with HIV infection for 6 years acquired from a previous partner. She is currently on DTG/ABC/3TC with a CD4 count of 500 and PVL <20 c/mL. She has been adherent to her medications and her PVL has been undetectable for 5 years. She has met a new partner who is HIV negative. They are desirous to have a pregnancy. However, her partner is very worried about acquiring HIV and has asked for advice regarding PrEP. They both tested negative for any sexually transmitted diseases.

Which statement is correct?

- 1. When partners have different HIV status, sexual intercourse without a condom allows for conception with effectively no risk of sexual transmission to the partner without HIV if the partner with HIV in on ART and has achieved sustained viral suppression (U=U :untedectable=untransmissible)
- 2. Her HIV negative partner absolutely needs to start PrEP before any attempts at conception
- 3. HIV perinatal transmission remains high despite ART and they should consider adoption as their best option
- 4. There will never be a need for her partner to start PrEP even if she becomes non-adherent to her ART since she has had undetectable PVL for 5 years

Case 5

- I.M. is a Liberian woman who just gave birth to a healthy baby girl whose initial HIV testing is negative. I.M. is on DTG/ABC/FTC and her CD4 is 500 with an undetectable PVL at <20 c/mL over the past 3 years. She is very adherent to her therapy. She has disclosed her HIV status to her family but no one in her community knows about her HIV infection. She is firm in her decision to breastfeed her baby despite knowing the current recommendation in the US not to breastfeed when someone has HIV infection.

How can you best help I.M.?

- 1. Refuse to continue being her doctor because she is going against your advice for her not to breastfeed
- 2. If she is to breastfeed, advice her that her baby should continue antiretroviral prophylaxis for the full duration of breastfeeding even if she has sustained viral suppression on her ART
- 3. She should breastfeed exclusively for up to 6 months postpartum, followed by breastfeeding in combination with introduction of complementary foods.
- 4. Develop a plan for weaning and rapid weaning over a few days is recommended

Breastfeeding in the US:

Prior to the current accessibility of ART in low-income countries, studies demonstrated that exclusive breastfeeding during the first 6 months of life is associated with lower rates of HIV transmission than mixed feeding (a term used to describe infants fed breast milk plus other liquid or solid foods, including formula).[24,25] After 6 months, when complementary foods are required for adequate infant nutrition, demand for breast milk decreases and gradual weaning can occur. Rapid weaning over several days is not recommended, because increased HIV shedding into breast milk and an increased rate of HIV transmission during rapid weaning were observed in studies from low-income countries that were conducted before ART was widely accessible for breastfeeding women.[26-28] Currently, not enough data exist to determine whether exclusive breastfeeding or mixed feeding has an impact on perinatal transmission in the context of effective ART.

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Question-and-Answer Session

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