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Translating science into care

Pregnancy Management and HIV

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Disclosures: None

Objectives

- List the basic tenets of managing antiretroviral therapy (ART) in a pregnant woman
- State at least 3 topics providers should address prior to delivery with women living with HIV
- Explain your approach to a woman who is not virally suppressed by 35 weeks gestation

CDC: Perinatally Infected Infants

- HIV-infected women delivering infants annually
  - ≈ 8700 in 2006[1]
  - ≈ 30% increase since 2000
- HIV-infected infants born in 50 states
  - 1650 in 1991
  - 151 in 2009[3]
  - 69 in 2013[4]

[1]Whitmore, Pediatrics JAIDS 2011;57:p218; [2]NHSS Surveillance Report 2013, vol 25; [3]Taylor, 2012 CROI, abst 103; [4]Taylor JAMA Pediatrics 2017

The numbers may seem small but they represent the tip of the iceberg

Without diagnosis and treatment during pregnancy/labor, 25% of women with HIV will deliver infants infected with HIV.

Testing

- What we used to use
  - ELISA (antibody test)
  - Western blot (antibody test)
- In 2018 what is the recommended approach to testing?

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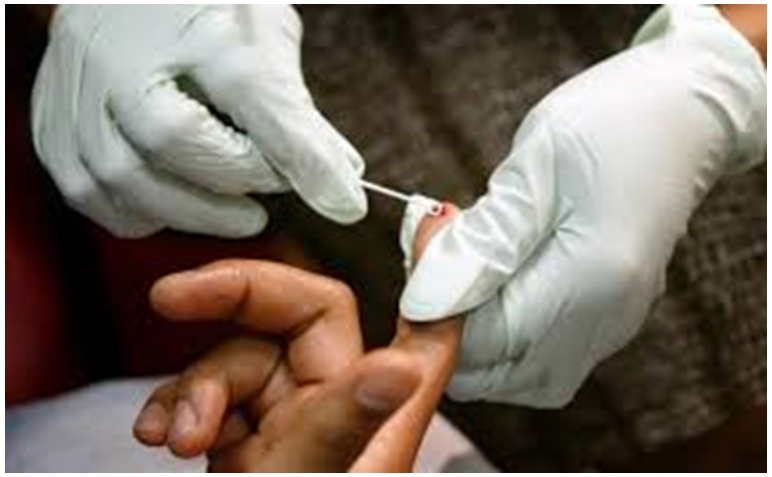
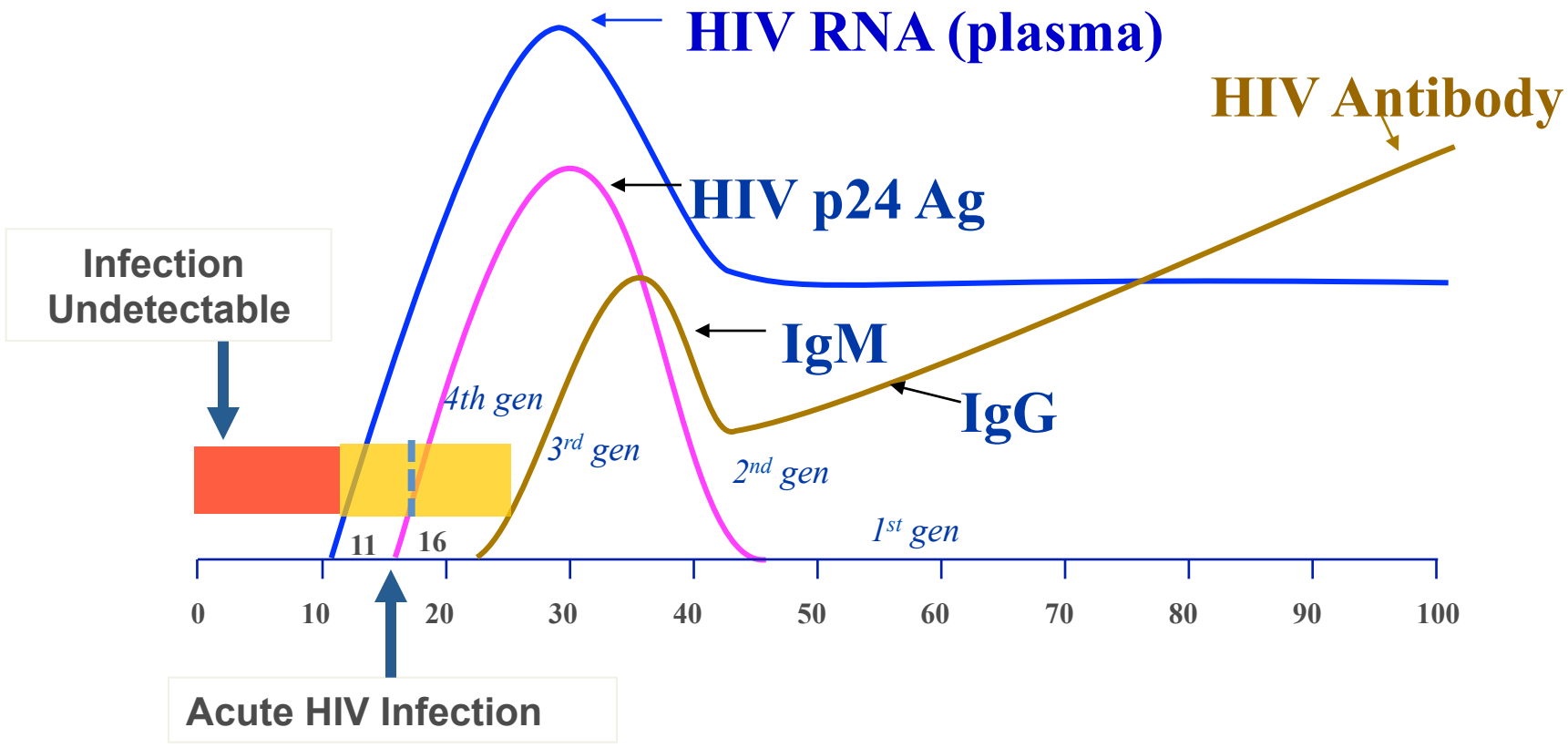


TESTING

HIV Infection and Laboratory Markers



Modified after Busch et al. Am J Med. 1997

4th generation HIV-1/2 immunoassay

(+)

(-)
Negative for HIV-1 and HIV-2 antibodies and p24 Ag

HIV-1/HIV-2 antibody differentiation immunoassay

HIV-1 (+)
HIV-2 (-)
HIV-1 antibodies detected

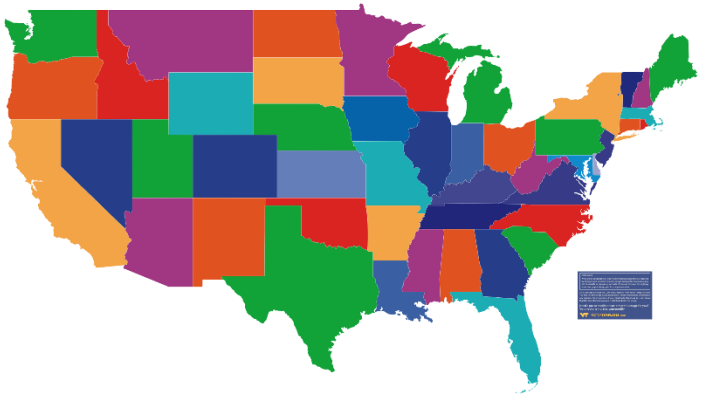
HIV-1 (-)
HIV-2 (+)
HIV-2 antibodies detected

HIV-1 (+)
HIV-2 (+)
HIV antibodies detected

HIV-1 (-) or indeterminate
HIV-2 (-)
NAT

NAT (+)
Acute HIV-1 infection

NAT (-)
Negative for HIV-1



Testing in Pregnancy

- CDC 2006 recommended (opt out) HIV testing at first prenatal visit and, in high risk jurisdictions, in third trimester (ideally at <36 weeks). Expedited testing in Labor & Delivery if no third trimester test results available.
- High risk jurisdictions are areas in which prenatal screening identifies at least one HIV-infected pregnant woman per 1,000 women screened.
- However, screening is cost effective if prevalence 17 per 100,000 (0.17 per 1000).

https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm

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ANTEPARTUM CARE FOR WOMEN WITH HIV

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Antepartum Care—General Principles

- Goal of antiretroviral therapy (ART) is to maintain a viral load below the limit of detection throughout pregnancy
- What if she is already on a regimen?
- What if she is ART naïve?

Perinatal Guidelines November 2017 www.aidsinfo.nih.gov

What we know now

- 8075 mother-baby pairs followed 2001-2011
- NO perinatal transmission among the 2651 mothers who started ART prior to conception, continued during pregnancy, and had a VL<50 at delivery

Mandelbrot et al. Clinical Infectious Diseases 2015

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Case 1

- Gloria is a 32 year old G3P2 diagnosed with HIV during her first pregnancy 7 years ago. She is on tenofovir/emtricitabine/ elvitegravir/cobisistat (brand name Stribild) and has been virally suppressed on this regimen for two years.
- What do you recommend she take during pregnancy?

Poll #1

- A: Change her to a regimen containing AZT
- B: Keep her on the same regimen
- C: Change her to ART other than elvitegravir/ cobicistat
- D: B or C

If already on ART:

- **If on ART and virally suppressed**, stay on same regimen (none of current antiretrovirals are known to be teratogenic)
- **If on elvitegravir/cobicistat** (such as Stribild or Genvoya), monitor viral load (VL) carefully or consider switch to more effective regimen

Best B et al. Elvitegravir/Cobicistat Pharmacokinetics in Pregnancy and Postpartum. Conference on Retroviruses and Opportunistic Infections 2017; Seattle, WA.

Perinatal Guidelines November 2017 www.aidsinfo.nih.gov

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Case 2

- Sheila is a 23 year old G1P0 diagnosed with HIV at her first prenatal visit through routine pregnancy screening.
- What ART regimen do you start her on and when do you start it?

Poll #2

- A: It depends on her gestational age
- B: I would wait for the results of the HIV genotype to make sure her virus is not resistant to the drug I am prescribing
- C: I would place her on a regimen containing tenofovir alafenamide since that is the newest form of tenofovir
- D: A and B

If she has never taken ART before (ARV naïve):

- **Initiate ART as soon as HIV is diagnosed**
  - Begin ART while awaiting results of HIV genotype for resistance (if there is resistance to a prescribed drug, you can change it)
  - Consider including an integrase inhibitor such as raltegravir or dolutegravir if high viral load (VL) late in pregnancy (expect 1-log decrease per week)
- **Include tenofovir/emtricitabine (or tenofovir/ lamivudine) if she is co-infected with hepatitis B (HBV)**

Boucoiran I et al. Can J Infect Dis Med Microbiol. 2015
Rahangdale L et al. Am J Obstet Gynecol. 2016
Brown RS et al. Hepatology. 2016

What ARVs should I prescribe?

- "Give what she will take"*
  - Does she have trouble swallowing large pills?
  - Would she rather have 2 small pills or one large pill?
  - Most individuals adhere to once a day regimens better than twice a day regimens
- The guidelines are guidelines

* Deb Cohan

Initiating ART in Pregnancy
(aka prescribe what they will take)

	NRTI/ NtRTI	NNRTI	PI	EI/II
Preferred	**ABC/3TC** **TDF/F(3)TC**		**ATV/r** **DRV/r (BID)**	**RAL (BID)**
Alternative	ZDV/3TC	EFV RPV	LPV/r	**DTG (preferred if acute HIV)**
Insufficient data	TAF			

aidsinfo.nih.gov DHHS Perinatal Guidelines November 2017 with special thanks to Deb Cohan for her concise graphic summary of the 2017 Perinatal Guidelines

And if she has a low CD4 count

- CD4 <200: give sulfasoxazole/trimethoprim 800mg/160 mg (Bactrim DS) to prevent pneumocystis jiroveci pneumonia (yes, I know she is pregnant; benefits outweigh risks; make sure she is on prenatal vitamins—which contain folate)
- CD4 <50: give azithromycin 1200 mg weekly to prevent mycobacterium avium complex pneumonia

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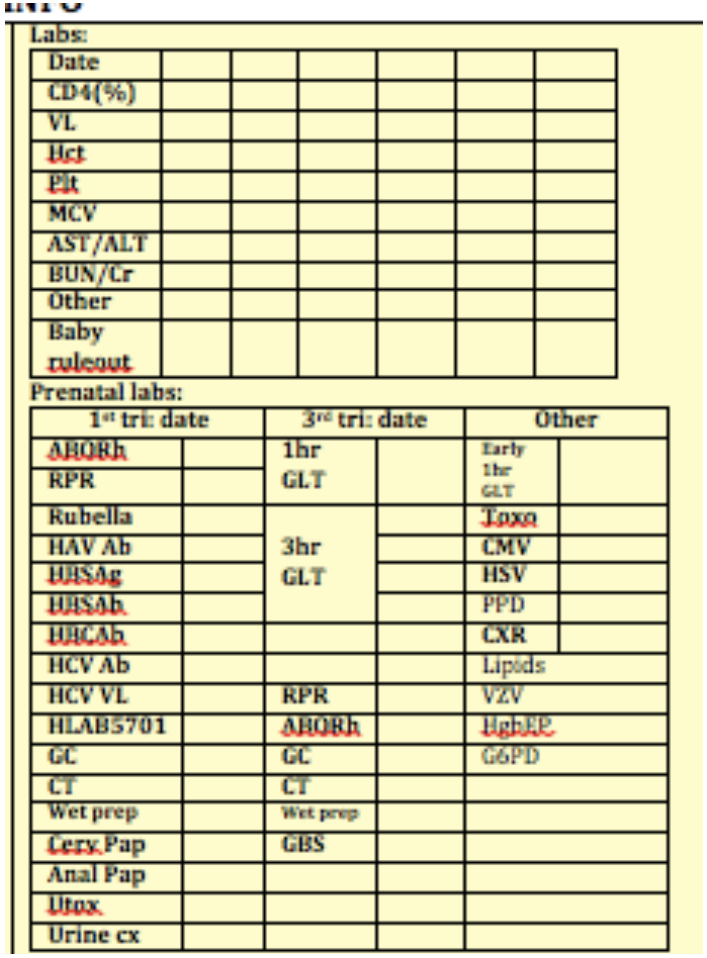
What nonstandard prenatal blood tests do I need to order?

- Liver and kidney function
- Hepatitis panel
- Hepatitis B surface antibody
- Hepatitis A antibody
- HLA5701 to rule out abacavir hypersensitivity
- HIV genotype for resistance



Labs:

Date						
CD4(%)						
VL						
Hct						
Plt						
MCV						
AST/ALT						
BUN/Cr						
Other						
Baby rule out						

Prenatal labs:

1st tri: date		3rd tri: date		Other	
ABORh		1hr GLT		Early 1hr GLT	
RPR					
Rubella		3hr GLT		Toxo	
HAV Ab				CMV	
HBSAg				HSV	
HBSAb				PPD	
HBCAb				CXR	
HCV Ab				Lipids	
HCV VL		RPR		VZV	
HLAB5701		ABORh		HgbEP	
GC		GC		G6PD	
CT		CT			
Wet prep		Wet prep			
Cerv Pap		GBS			
Anal Pap					
Utox					
Urine cx					

https://www.hiveonline.org/perinatal-providers/

Monitoring in pregnancy

- **Check VL**
  - 2-4 weeks after initiating treatment
  - monthly until undetectable
  - every 3 months
  - at 34-36 weeks to inform decision regarding mode of delivery *and optimal management of newborn*
- **Check CD4 count every 6 months in women who are virally suppressed and have CD4 counts >200**

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Acute HIV: what do we mean by this and why does it matter?

- Recent diagnosis of HIV
  - For example: HIV negative in first trimester and HIV positive in third trimester
- Infants born to mothers infected with HIV during pregnancy (or breastfeeding) are at higher risk than infants whose mothers have had HIV prior to pregnancy
- Imperative to reduce viral load rapidly
- Dolutegravir is the preferred integrase inhibitor in this situation

Case 3

- Melanie is a 20 year old G1P0 at 35 weeks gestation who has been on ART since 18 weeks. She has an unstable living situation and her boyfriend has sometimes locked her out of her room, where she keeps her medications. Her viral load, which was undetectable at 26 weeks, is now 11,000.
- What do you do?

Poll #3

- A: Do a genotype for resistance
- B: Arrange for home health care or hospital admission to give directly observed therapy
- C: Schedule her for a Cesarean at 38 weeks
- D: Add an integrase inhibitor if she is not already on one
- E: A, B, and D

Lack of viral suppression

- Resistance vs. adherence
- Add integrase inhibitor such as raltegravir or dolutegravir
- Consider directly observed therapy
- Scheduled Cesarean if VL>1000 at 38 weeks

Westling et al. AIDS Patient Care STDS. 2012;26(12):714-7.
Nobrega et al.AIDS Res Hum Retroviruses. 2013 Nov;29(11):1451-4.
Rahangdale et al. AJOG. 2016; 214(3):385.e1-7

Don't forget to discuss:

- Recommendation for lifelong treatment with ARVs (regardless of CD4 count)
- Mode of delivery
- Contraception plans: "When do you want to have your next baby?"
- Infant prophylaxis
- Infant feeding: "In the U.S. we recommend not breastfeeding. How do you feel about that?"
- No pre-chewing of infant foods

Don’t forget to give vaccinations:

- Flu
- Tdap
- Hep A and Hep B if not immune

Retention in Care after Delivery

- Nationally, women more successfully attend prenatal visits than primary care HIV appointments after delivery
- Two to four visits per year are recommended to follow VL and CD4 counts
- What can we do to improve long term follow-up after delivery?

Innovations in Care

- Adaptation of CenteringPregnancy (group prenatal care)
- Centering:
  - 10 two hour sessions during pregnancy
  - Focused activities and discussion of issues in pregnancy, e.g. nutrition, domestic violence, what to expect in labor, changes in relationships, contraception, postpartum depression
  - Women of similar gestational ages grouped together


first time mom
Centering Pregnancy Prenatal Care

What we have added

- Activities and discussions of HIV-related topics to each session
  - How and when were you diagnosed with HIV and what was that like?
  - To whom have you disclosed your HIV diagnosis and whom do you still want to tell?
  - Videos on how ART works and how taking ART prevents transmission of HIV to baby
  - How can you protect your partner if partner does not have HIV?
  - Meet the primary care and pediatric doctors and ask them questions about follow-up care

Collaboration with Houston Food Bank

Hypotheses

- Anticipate a greater reduction in sense of stigma and depression and a greater increase in knowledge and adherence to medication in the group vs. standard one-on-one care
- Expect more regular attendance at primary HIV care clinician visits in the year after delivery

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National Perinatal HIV Hotline

24 hours a day, 7 days a week, 365 days a year
(888) 448-8765

The Clinician Consultation Center (CCC) provides free, confidential, and timely expert perinatal HIV and HIV-exposed infant consultation to clinicians of all experience levels and training backgrounds.

Advice is based on Federal treatment guidelines, current medical literature, and clinical best practices.

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Thank you!

- Let me know if you have questions
- jlevison@bcm.edu

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Thank you!

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