HIV in Pregnancy and Childbirth

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- AIDS first described in 1981
- Causative agent in RNA retro virus
  - HIV – 1
  - HIV – 2

Most cases worldwide due to HIV -1

Transmission

Sexual contract

Blood or blood – contaminated products

Vertical to fetus / baby from mother

- **Intra uterine : 20% before 36 weeks, 50% 36 wks – to delivery**
- **During delivery : 30%**
- **Breast feeding : 30 – 40%**

Risk of vertical transmission correlates with viral RNA levels

but not absolutely

Aims for pregnant HIV +ve women

- Maternal well being
- Prevention of vertical transmission

Perinatal transmission rates decreased

From 20 – 30% (1981 – 2000)

To 1 – 2% (2000 onwards)

www.WHO.int/hiv/topics/arv

In USA

100,000 women are infected – 6000 deliveries annually

19 million globally

GMCH Data

	natal	HIV +ve
2007	63	11
2008	4052	05
2009	2920	09

Pregnancy

HIV testing - Universal testing and right of refusal

- Test with Enzyme Immuno Assay (EIA)
- Confirm with Western Blot if EIA is repeatedly reactive

Indeterminate W.B.

↓

Repeat + test sexual partner

Effect of Pregnancy on HIV

No effect on HIV disease progression

No difference in $CD4^+$ Lymphocytes

or

HIV RNA trajectory

or

Clinical AIDS rate with one / multiple pregnancies

Effect of HIV on pregnancy

In developing countries, studies have shown increase in incidence of preterm birth

- Low birth weight
- IUGR
- Still births
- and Infant deaths

And risk was inversely proportional to $CD4^+$ lymphocyte count.

Zidovudine monotherapy also associated with increased risk of preterm birth and LBW babies.

Management Options

Ideal:

- **Prepregnancy testing and counselling**
- **If positive and requiring therapy in non-pregnant state**
- **($CD4^+$ count < 350 cells / µl**

  HIV RNA level > 55000 copies /ml)

Should get therapy <u>without</u> Efavirenz. Pregnancy to be delayed till HIV RNA levels undetectable .

Single factor most strongly related to perinatal transmission is HIV RNA levels.

Maternal

It patient already HIV + diagnosed with criteria for ART (Anti-retroviral therapy)

- CD4 count ≤ 350 µl
- HIV RNA 55000 copies / ml

ART (HAART) started / continued in 1st trimester with pregnancy – safe drugs

Discontinue Efavirenz (teratogenic)

Antenatal Testing

In USA

- Opt out strategy for testing

- In India

- Opt in

If rate is ≥ in 1000 pregnancies, or patient is high-risk for HIV

HIV testing is to be repeated in 3rd trimester.

High risk for HIV

- Injection drug use
- Multiple sexual partners
- Suspected / known HIV + sexual partner
- Any other STD in patient

Antenatal Testing

- By ELISA
- Confirmation by Western Blot (in USA)
- Three tests (ELISA) in India

Antenatal / Prenatal

- If HIV + status found at pregnancy
- Counselling
- MTP is offered
- $CD4^+$ lymphocyte testing and HIV RNA is done
- Baseline RFT & LFT
- Hb, TLC, DLC
- If criteria for treatment start therapy in 1^{st} trimester

Antiretroviral Therapy

For Antiretroviral naive patients : (with CD_4 < 350 & RNA ≥ 55000)

- 200 mg Lopinavir, 50 mg Ritonavir combination :

Ritomax forte 2 Cap. BD

Or

- Nelfinavir (250 mg tabs) 750 mg tds)

Plus

- Zidovudine Lamivudine combination

300 mg 150 mg

For all other pregnant women

Start in 2nd trimester

Zidovudine	**+**	**Lamivudine**	**1 Tab. BD**
300 mg		**150 mg**	

Duovir (Rs. 205 for 10)

Combivir (Rs. 820 for 10)

This regime should contain Zidovudine

I/V zidovudine should be given during labour

If HIV RNA level < 1000 copies / ml then monotherapy with Zidovudine can be given.

Do not chose Nevirapine if $CD4^+$ count >250 as risk of hepatotoxicity is very high.

Surveillance for

- Symptoms of nausea, vomiting, muscle cramps
- New symptoms every 2 – 4 weeks
- LFT and electrolytes every 2 – 4 weeks at beginning of therapy (1 – 2 months)
- Then every month in 3rd trimester
- $CD4^+$ lymphocyte count every 3 months during pregnancy
- HIV RNA levels every 4 weeks after starting therapy till undetectable and then every 3 months (at least 1 log fall after 4 – 8 weeks of starting therapy)
- GCT at 24 – 28 weeks as scheduled.

If patient first seen in Labour

- Rapid HIV test so that peripartum prophylaxis can be given
- Confirm later – W.B. or ELISA

Intrapartum

If detected only during labour

- **Nevirapine 2 tabs to mother before delivery**
- **Nevirapine Syrup 2 mg / kg to baby after 48 hrs of birth**

If patient already on Zidovudine & Lamivudine

I/V Zidovudine 2 mg / kg in one hour I / V

Then 1 mg / kg / hr infusion till delivery

Neonate : 2 mg / kg 6 hrly x 6 wks start 8 – 12 hrs after birth

Avoid during pregnancy and labour

- Amniocentesis
- Scalp electrode for fetal monitoring
- Early ARM
- Scalp blood testing

C.S. : C.S. reduces transmission (0.43 adjusted odds ratio)

If done before labour and rupture of membranes (ROM)

Transmission in C.S. = 1.8%

Vaginal delivery = 10.5%

Indications for LSCS

- If viral load unknown or
- > 1000 copies / ml at 36 wks gestation
- If she has not taken anti HIV medication during her pregnancy
- Not had any prenatal care till 36 wks
- Should be done before rupture of membrane

Breast feeding

- Increases risk of transmission by 15 – 20%
- WHO recommendation for USA – avoid
- For developing countries

Encourage breast feeding if hygienic top feeding not feasible

- Should have exclusive breast feeding or exclusive top feeds

Contraceptive options

- Barrier contraception
- IUCD if without severe immune compromise and low risk of sexually transmitted infection.
- Hormonal contraception can be used sp depot provera ART drugs reduce blood levels of estrogens so CoC pills may not be effective and may cause break-through bleeding


Thank you