Pediatric HIV in India - trends & challenges

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ASHA KIRANA HOSPITAL

- Since 1997
- ICTC & Training centre
- Day care and 30 bed In-patient facility for PLWHA
- DOTS centre.
- CCC (Community Care Centre) - NACO
- ART Centre (PPP Model) - NACO
- Targeted Intervention for Migrants - NACO
- PPTCT Services - EGPAF
Greetings from Asha Kirana Family
• Epidemiology
• Clinical features
• Management
• Exit thinking
while we try to teach our children all about life,
it is our children who teach us what life is all about.
Pediatric HIV/AIDS

a generation challenged ....

a challenged generation..

from a turbulent childhood to

more challenging adolescence...
Pediatric AIDS centers around:

- A mother's anxiety, fear, and guilt...
- Grandparents returning from retirement...
- An uncle or aunt with their own child to care for...
- A threatening neighborhood...
- An uncaring society...
Paediatric HIV in India

- Estimated 2.1 million persons with HIV infection (0.3%)

- Of these, the number of children estimated to be HIV infected 1.42 Lakh (0 to 14 years)
Children on the brink of HIV/AIDS

>1 million children are in sex trade world over

In India:

- >5 lakh children in sex trade
- refugee & displaced children
- children in detention & remand homes
- consensual sex amongst urban youth is on the rise
- substance abuse & HIV
laws forbidding sexual exploitation of children exist in every nation …but hard to enforce
(30% of world’s child labor population live in India)

unicef -2011
40 per cent of the world’s child brides are in India

And one in every four Indian weddings shackles a child

KNOT before 18
Little wives
Women of 20 to 24 years who married before 18
(Figures in percentages. Marriages during 1992-2008)
• Epidemiology
• Clinical features
• Management
• Exit thinking
Differences between Pediatric & Adult HIV disease

- mode of acquisition
- disease progression
- diagnosis of HIV infection
- variable CD4 count
- common childhood infections Vs OI
- LIP, Parotitis & Encephalopathy are specific in pediatric age.
Natural history of pediatric HIV

- Rapid progressors: 25-30%
- Intermediate progressors: 50-60%
- Slow progressors: 5-10%
### When to suspect HIV in clinical setting?

Any illness with unusual severity, delayed response to therapy or increased tendency for complications → suspect HIV/AIDS

### Infancy:
- Recurring/persisting oral candidiasis
- Growth failure Gr III/IV PEM
- Severe respiratory distress:
  - PCP/Br. Pneumonia / Milary TB
- Developmental delay / Encephalopathy
Early childhood:
- Rec. Parotitis
- Rec. otitis / pneumonias / diarrhoea
- Skin manifestations
- Growth failure
- Severe varicella
- Hepato-splenomegaly

Late childhood:
- Herpes zoster
- Tuberculosis (reactivation, extra pulm)
- Skin manifestations
- Growth failure
Opportunistic infections (OI)

Vs

Opportunistic Severity (OS)

Vs

Opportunistic Complications (OC)

Vs

Opportunistic Malignancies (OM)
Different contexts that impact OIs

- Pre HAART
- HAART
- Non compliance to ART / ATT
- Drug interactions
- Multiple OIs
- Virological failure
- Pharmacogenomics
HIV/AIDS is constantly evolving with new challenges...

Closer you get to the source of light
larger will be the shadow of ignorance behind you.!
From OI, OI and OIs…
to
Non-infective comorbidities

- Diabetes
- Lipodystrophy
- Lactic acidosis
- Polyneuropathy
- Nephropathy
- Cardiomyopathy…
• Epidemiology
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Pediatric ART scale up in India - NACO

- Total no of Children Ever registered under the HIV care 1,07,668
- Total no of children ever started on ART 49,210
- No of children alive and on ART 40,975

*Figures as on 1st December 2013*
Antenatal

Intra-natal

Infant Feeding

PPTCT
# PPTCT Regimen

**NACO: Dec - 2013**

<table>
<thead>
<tr>
<th>Antenatal</th>
<th>Intra natal</th>
<th>Postnatal</th>
</tr>
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<tbody>
<tr>
<td><strong>TDF+3TC+EFV</strong> (regardless of clinical stage or CD4 count)</td>
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In **all** scenarios: Infants get daily NVP from birth to 6 wk age irrespective of mode of feeding

- <2kg: 2mg/kg; 2-2.5kg: 10 mg (1ml); >2.5kg: 15 mg (1.5ml)
<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>2010 RECOMMENDATIONS</th>
<th>2013 RECOMMENDATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 YEARS</td>
<td>Treat ALL</td>
<td>Treat ALL</td>
</tr>
<tr>
<td></td>
<td>Strong recommendation, moderate-quality evidence</td>
<td>Strong recommendation, moderate-quality evidence</td>
</tr>
<tr>
<td>1-2 YEARS</td>
<td>Treat ALL</td>
<td>Treat ALL</td>
</tr>
<tr>
<td></td>
<td>Conditional recommendation, very-low-quality evidence</td>
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</tr>
<tr>
<td>2-5 YEARS</td>
<td>Initiate ART with CD4 count ≤750 cells/mm³ or &lt;25%, irrespective of WHO clinical stage</td>
<td>1-5 YEARS</td>
</tr>
<tr>
<td></td>
<td>CD4 ≤ 500 cells/mm³ (As in adults), irrespective of WHO clinical stage AND WHO clinical stage 3 or 4</td>
<td>CD4 ≤ 500 cells/mm³</td>
</tr>
<tr>
<td>≥5 YEARS</td>
<td>Initiate ART with CD4 count ≤350 cells/mm³ (As in adults), irrespective of WHO clinical stage AND WHO clinical stage 3 or 4</td>
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</tr>
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</table>

Strong recommendation, moderate-quality evidence
What’s the evidence?

• **CHER trial (young infant)**
  Early ART reduces mortality and HIV progression by 75%

• **PREDICT trial (1-12 years)**
  AIDS-free survival did not differ between deferred and early treatment group (median age 6.4 years).

• **IeDea SA: (2-5 years)**
  Modelling of observational data showed no difference in mortality between early and starting ART based on current CD4 threshold. However, 75% of children with CD4 > 25% (or 750 cells/mm3) become eligible by 3 years from enrolment.

1 Violari A. NEJM 2008;359:2233-44.
3 Schomaker M. IeDEA Southern Africa Collaboration 2012
Why Start ART In Asymptomatic Infants?

- CD4 and HIV-RNA do not predict disease progression
- Prevent severe life threatening OIs
- Fewer mutant strains
- Decreased incidence of drug resistance
- Destruction of immune system can be delayed
- Slow down disease progression
Non ART children – slow progressors
ART initiation in children

NACO – Dec 2013

0 - 24 months: Treat all

2 - 5 yrs: WHO stage 3 & 4
CD4 < 750 (25%)

> 5 yrs: CD4 < 350
Goals of pediatric ART

- Reducing mortality and morbidity
- Restoring / preserving immune function
- Maximally and durably suppress viral replication
- Minimizing drug toxicity
- Maintaining normal physical growth and neurocognitive development
- Improving quality of life
## Initial ART regimen

<table>
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<th>Comment</th>
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<tr>
<td><strong>Stavudine or Zidovudine or Abacavir</strong> + Lamivudine + Nevirapine or Efaviranz</td>
<td>Age &lt;3yrs/ Wt &lt;10kg (NVRP) Adolescent girls</td>
</tr>
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Nvp exposed infants should be started on Lopinavir/ritonavir
1st line ART Regimens for children

- PI : AZT + 3TC + NVP
- PII : AZT + 3TC + EFVR (>3 yrs, >10 kg)
- PI (a)
  - d4t instead of AZT (if Hb% < 9 gm)
- PII(a)
Alternate 1\textsuperscript{st} line ART in children

- PIII : ABC + 3TC + NVP
- PIII(a) : ABC + 3TC + EFV
  (for children not tolerating AZT or d4T)
- PIII(b) : ABC + 3TC + Lop/r
  (children not tolerating AZT or d4T & had exposure to NNRTI during PPTCT)
Contd...

- **P IV**: AZT + 3TC + Lop/r

- **PIV(a)**: d4T + 3TC + Lop/r

(Children not tolerating NVP or Efv or had exposure to NNRTI during PPTCT)

(studies indicate TDF is safe > 3yrs age)
Monitor for ABC hypersensitivity within 6wks of treatment

HLA –B 5701 testing not available

If children have 2 or more of the following:

- Fever
- Skin rash
- Const symptoms (malaise, fatigue, aches)
- Resp. symptoms (cough, sore throat, tachypnea)
- GI Symptoms (abd pain, diarrhoea, vomiting)

Permanently discont ABC - “should not re-challenge”
Criteria for treatment failure in Pediatric AIDS

**Clinical criteria:**
- Decline in growth
- Regression of milestones
- New OIs or malignancy
- Recurrence of previous OIs

**CD4 Criteria:**
- CD4 decline to pretherapy baseline or below
- > 50% fall from CD4 peak achieved during therapy

**Viral load criteria:**
- The viral load is >5000 after 6months of ART
Second line Regimen

- ABACAVIR (ABC)
- DIDANOSINE (ddI) and Boosted PI (LPV/r)
- Lamivudine is continued since 3TC resistant strains lack replicative capacity and continuing 3TC will encourage the presence of these viruses which lack the fitness.
- Additional dose of ritonavir is given (super boosted PI ) if ATT with rifampicin has to be given
• TDF is regarded safe in >3yrs of age

• Atzanavir / Darunavir with low dose Ritonavir + 2 NRTIs are regarded safe in >6yrs of age (dosage and pediatric formulations)
ART Formulations for children provided by NACO

- d4T +3TC (dispersible Tablet) FDC6
- d4T +3TC +NVP (dispersible Tablet)
- AZT 60mg + 3TC 30mg
- AZT 60mg + 3TC 30mg + NVP 50mg
- EFV 50 and 600mg
- NVP syrup (50mg/5ml)
- ABC 60mg + 3TC 30mg
- LPV/r Tablet 100/25mg
- LPV/r syrup 80/20mg
CTMX-Prophylaxis against multiple OIs

- PCP
- Toxoplasmosis
- Chr. diarrhoea
- ARI
- Other bacterial infections

All HIV exposed infants >6wks of age & sero-positive children until 5yrs must be given CTMX Prophylaxis
Optimal management of common childhood infections

- Febrile illness: malaria, dengue, typhoid, rickettsiae, UTI
- Viral broncholitis vs PCP in infants
- Investigations: CRP, Bactec c/s, gastric aspirates c/s, FNAC, CSF, Pleural & ascitic fluid
- Avoid suboptimal dose & duration of antibiotics
Immunization schedule

- Routine immunization as per IAP COI
- Withhold live vaccines if child is severely symptomatic

**priority vaccines:**

- Hep B, HepA
- Pneumococcal vaccine (conjugate 13valent, polysach 23valent)
- Influenza vac (yearly)
- HPV – Girls >10yrs

- Rotavirus vac safety is not known
INH Preventive therapy

Source: RNTCP

- Asymptomatic Mantoux Negative children who are exposed to Smear+ve TB cases should receive INH Preventive Therapy
  
  (INH 5mg/kg/day x 6months)
• Epidemiology
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Care continuum in Paediatric AIDS

- Optimum PPTCT
- Mother – infant follow up
- EID & early ART
- Adherence & follow up
- Nutrition, growth and development
- Immunization
- Status disclosure
- Disclosure and beyond
- Shared confidentiality
- Education
- Transition from child – adolescent

Advance disease & palliative care
Adolescent to adult
Pediatric AIDS is not just treating children...
it is raising them from infancy & childhood to adolescence and youth.
consider your child one among many in this world
and all children partly your own...

it is the highest evolved state of parent ...
Priority areas ....way forward

- viral load monitoring annually
- adherence clubs
  support groups of adolescents, children & care providers
- keep drug price down (2\textsuperscript{nd} and 3\textsuperscript{rd} line)
- say no to “No stock’ label
- decentralize 2\textsuperscript{nd} & 3\textsuperscript{rd} line ART rollout
the true benevolence ...

it is not giving one

when you have ten...

it is mere thought of giving one

when you have none...
let us shift from ‘save lives’ to ‘change lives’ approach
not just ‘bring hopes’
let us ‘create a future’ for our children
Asha Kirana... a story

a journey

a passion

a way of life !.

THANK YOU