HIV in Pregnancy
Joint RCOG/BHIVA Multidisciplinary Conference

Dr Yvonne Gilleece
Royal Sussex County Hospital, Brighton

Friday 20 January 2012, Royal College of Obstetricians and Gynaecologists, London

Management of Rupture of Membranes at Term
Yvonne Gilleece
Brighton & Sussex University Hospitals NHS Trust
Case MG

- 32yo Zimbabwean primip in UK since 2008
- Working as HCA
- Diagnosed HIV positive during AN screening at 12/40
- Very shocked by diagnosis
- RMP very supportive
- Eventually tested 6/52 later, also found to be HIV positive

Case MG

- HB cAb+, sAb >1000
- Syphilis serology negative
- STI screens NAD
- PMHx NAD
- G1, P0
- Referred to Community Team and Women’s Group
Case MG

- Subtype C
- Wildtype
- CD4 350 cells/mm3
- HIV VL 16885 c/ml
- Started Truvada/Atazanavir/Ritonavir at 20/40
- HIV VL 186 c/ml at 32 weeks
- Aiming for vaginal delivery

Presents at 37+0/40 with spontaneous ROM but no contractions
Considerations

- Induction and delivery should not be delayed
- In HIV positive women PPROM at 34-37 weeks is treated as above also
- Wants NVD but last VL >40 c/ml
- But ROM…clock has started
- Risk of chorioamnionitis

What did we do?

- Urgent HIV VL sent
- Needed to think about mode of delivery
- Needed to think about augmenting ARVs?
MG HIV VL

HIV VL copies/ml

Weeks gestation

NVD vs Em C Section?

---

5
BHIVA 2012 Guidelines

- If VL < 50 c/ml vaginal delivery is **recommended**
- If VL > 400 c/ml PLCS is **recommended**
- If the VL is 50-399 c/ml PLCS should be **considered** according to:
  - the actual viral load
  - the trajectory of the viral load
  - length of time on treatment
  - adherence issues
  - obstetric issues
  - woman's wishes

*De Ruiter et al, 2012*

---

Proceed with induction
Options: ARVs for mum and/or baby

- Double dose Tenofovir for mum
- Oral nevirapine for mum
- Oral Raltegravir for mum
- IV AZT for mum
- Triple therapy for baby

What did we do?
- HIV VL on good trajectory downwards
- Gave double dose Tenofovir and single dose nevirapine
- Baby to be given AZT monotherapy

Call from the labour ward

- Progressing reasonably well
- Duration ROM now 14 hours
- Should they proceed to emergency section?
Duration of ruptured membranes and vertical transmission of HIV: data from national surveillance in the UK and Ireland

National Study of HIV in Pregnancy and Childhood

Hiwot Haile-Selassie¹
Annemiek de Ruiter²
Pat Tookey¹

¹ UCL Institute of Child Health
² Guy’s and St Thomas’ NHS Foundation Trust

Background

- Rupture of membranes (ROM) identified as risk factor for MTCT in the 1990s
  - Longer duration of ROM increased MTCT risk¹,²
  - Elective CS without ROM reduced MTCT risk³
- Most studies were before HAART widely available

² International Perinatal HIV Group. AIDS 2001; 15:257-68
All births to diagnosed women 1996-2010
Mode of delivery (UK and Ireland)

Study population

- 3885 live singleton births reported 2007-2010 available for this analysis
- Ethnic origin 78% black African, 14% white
- Antenatal ART 96% HAART
- Viral load at delivery 75% undetectable
- Mode of delivery 40% elective CS, 35% vaginal, 25% emergency CS
- MTCT rate 0.8% (21/2536) *<50 copies/ml
Results (1)

1567 Elective CS

2007-2009 births
3885

409 missing ROM data

ROM Y/N
1949

No ROM
576 (30%)

ROM
1373 (70%)

Duration of ROM
1050 (76%)

≤4 hrs
527 (50%)

>4 hrs*
523 (50%)

Infection status
383 (73%)

Infection status
358 (67%)

*Includes 21 mother/child pairs with ROM >48hrs

Data on DROM and infection status reported for 741

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>≤ 4 hrs (n=383)</th>
<th>&gt;4 hrs (n=358)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No antenatal treatment</td>
<td>2 % (6/383)</td>
<td>1 % (3/358)</td>
<td>0.37</td>
</tr>
<tr>
<td>Antenatal HAART</td>
<td>96% (362/376)</td>
<td>97% (343/354)</td>
<td>0.40</td>
</tr>
<tr>
<td>VL &gt;50 copies ml</td>
<td>14% (54/380)</td>
<td>18% (64/356)</td>
<td>0.16</td>
</tr>
<tr>
<td>CD4 &lt;350 cells/mm²</td>
<td>27% (101/373)</td>
<td>29% (103/350)</td>
<td>0.48</td>
</tr>
<tr>
<td>Symptomatic in pregnancy</td>
<td>4% (12/349)</td>
<td>4% (12/311)</td>
<td>0.93</td>
</tr>
<tr>
<td>Emergency caesarean section</td>
<td>21% (81/383)</td>
<td>51% (181/358)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Preterm delivery (&lt;37 wks)</td>
<td>8% (31/383)</td>
<td>18% (64/356)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Results (1)

Mother-to-child-transmission

- Overall MTCT 0.9% (7/741)
  - ROM \( \leq 4 \) hrs: 0.5% (2/383)
  - ROM > 4 hrs: 1.4% (5/358)

Odds ratio 2.7 95% C.I. 0.5-14.0 \( p = 0.22 \)

Frequency distribution of DROM for those with duration \( \leq 48 \) hours

* Transmissions
Results (2)

Mother-to-child-transmission

- 479 (65%) women with vaginal delivery
  - ROM ≤ 4 hrs: 0.3% (1/302)
  - ROM > 4 hrs: 0.6% (1/177) \( p = 0.70 \)

- 262 (35%) women with emergency CS
  - ROM ≤ 4 hrs: 1.2% (1/81)
  - ROM > 4 hrs: 2.2% (4/181) \( p = 0.59 \)
Results (3)

Mother-to-child-transmission

- 618 women with VL < 50 copies/ml*
  - ROM ≤ 4 hrs: 0.3% (1/326)
  - ROM > 4 hrs: 0.0% (0/292) \( p = 0.34 \)

*Closest to delivery

- 68% (421/618) of these had vaginal delivery
- 1 transmission occurred - planned vaginal delivery

*Closest to delivery
Results (4)

Mother-to-child-transmission

- 94 women with **VL 50-999 copies/ml**
  - ROM ≤ 4 hrs: 0.0% (0/43)
  - ROM > 4 hrs: 3.9% (2/51) $p = 0.19$

- 48% (45/94) of these had vaginal delivery
- 2 transmissions - both emergency caesarean sections

* Median VL: 110 (IQR: 77-240)
Summary

- No evidence of increased MTCT with increased duration ROM
- Limited data
- Ongoing surveillance

Chorioamnionitis

- Significantly associated with
  - cystic periventricular leucomalacia (RR 2.6, 95% CI 1.7–3.9)
  - cerebral palsy (RR, 1.9, 95% CI 1.5–2.5)

- Risk 10% for PROM
- BUT 40% for PROM >24 hours
BHIVA 2012 Guidelines

- Therefore treat 34-37 weeks with group B streptococcus prophylaxis
- Above 37 weeks have a low threshold to treat low level pyrexia

MG

- Delivered at ROM 18 hours
- Baby APGAR score 9
- Given AZT within 4 hours – tolerated well
- HIV proviral DNA at Day 1 negative
- Maternal viral load returned post delivery at <40 c/ml
Conclusions

- In HIV positive women PPROM at term and 34-37 weeks is managed with no delay in induction and delivery
- Trajectory of viral load will determine mode of delivery
- ARV augmentation is possible
- DROM is not associated with increased risk of transmission
- Chorioamnionitis must be monitored for and treated aggressively
- MDT approach is key

Acknowledgments

- Pat Tookey
- Annemiek de Ruiter
- MDT HIV/Obstetrics at BSUH