Evaluation of Cabergoline for Lactation Suppression in Women Living with HIV


7TH INTERNATIONAL WORKSHOP ON HIV & WOMEN
SEATTLE, WA, USA
Background

- Canadian and US Perinatal HIV guidelines recommend exclusive formula feeding for all infants born to women living with HIV.
- Canadian guidelines discourage postpartum use of all ergots, including cabergoline, if protease inhibitor (PI) based antiretroviral regimen.
- No recommendations regarding lactation inhibition in United States or British HIV guidelines.
- Survey results report 56% UK HIV services routinely offered cabergoline.
Background

- Bromocriptine (dopaminergic ergoline derivative) used for lactation inhibition since 1970
  - Concern for rare but serious cardiovascular and neurological side effects
- Cabergoline is a long-acting dopamine agonist selective for D2 receptors
- Advantages over bromocriptine
  - Easier dosing (single-dose), fewer side effects and drug interactions
  - Health Canada indication for lactation suppression
- Shared class association, use of cabergoline controversial in many countries
Background

- Reports of clinical ergotism reported between PIs and traditional ergots
- Cabergoline is not metabolized by or cause inhibition/induction of the hepatic cytochrome P 450 (CYP450) enzyme system
- Limited data on the use of cabergoline for lactation suppression in women living with HIV
- CHU Sainte-Justine (Montreal, QC) and BC Women’s Hospital (Vancouver, BC) use cabergoline for lactation suppression for women living with HIV
- Evaluation necessary to address literature gap and support expanded use
Objectives

1. To evaluate the **efficacy** of cabergoline 1 mg single oral dose taken within the first 24 hours postpartum on lactation inhibition in women living with HIV

Measured by the presence or absence of 3 symptoms of lactation on day 2 and day 15 postpartum
- Breast pain
- Congestion
- Milk discharge
Objectives

Breast pain
Congestion
Milk discharge

Absence of all 3 symptoms
Complete success

Presence of 1 or 2 symptoms
Partial success

Presence of all 3 symptoms
Failure
Objectives

2. To evaluate the safety of cabergoline in women living with HIV who receive a 1 mg single oral dose within 24 hours postpartum

Determine occurrence of adverse events within 2 weeks (day 2 & 15) of taking cabergoline

- Dizziness
- Headache
- Nausea/vomiting
- Hand numbness
- Foot numbness
- Hand pain
- Foot pain
Objectives

3. To evaluate patient satisfaction after taking cabergoline 1 mg single oral dose to inhibit lactation. Satisfaction was evaluated at day 15 postpartum addressing 4 main domains:

- Side effects
- Effectiveness
- Convenience
- Global satisfaction
Methods

Study Design

- Multi-center prospective cohort study
  - Centre Maternel Infantile sur le SIDA at the CHU Sainte-Justine (CHUSJ, Montreal, QC)
  - Oak Tree Clinic at the BC Women’s Hospital (BCWH, Vancouver, BC)
Methods

Patient population

- Pregnant women living with HIV ≥ 19 years of age
- Received cART for ≥ 8 weeks during pregnancy and plan to continue the same cART in the immediate postpartum period
- Offered to receive cabergoline to prevent lactation

Excluded:
- Pre-term delivery before 37 weeks
- *Clinical contraindications*: hypertension/receiving antihypertensives, pulmonary/cardiac fibrotic disorders, cardiac valvulopathy
Methods

Study Timeline

Third trimester

Delivery

Day 2
Postpartum

Day 15
Postpartum

Recruitment

Cabergoline

Questionnaire 1
- Efficacy
- Safety

Questionnaire 1
- Efficacy
- Safety

Questionnaire 2
- Satisfaction

TSQM:
- Effectiveness
- Side effects
- Convenience
- Global satisfaction
Results: Interim analysis

Target: n = 60

n=29 Enrolled

n=26 Delivered

Day 2 Postpartum
22 (85%) - Efficacy & Safety

Day 15 Postpartum
22 (85%) - Efficacy & Safety
21 (81%) - Satisfaction
Results: Interim analysis

- All women prescribed cabergoline 1 mg single oral dose
- All women were on cART with HIV viral load <40 copies/mL at the time of delivery
- 11/22 (50%) PI based regimen; 10/22 (45%) Integrase inhibitor based regimen
- 14/21 (67%) had a previous live birth
  - n=7 had breastfed after a previous pregnancy (prior to HIV diagnosis or immigration to Canada)
## Efficacy

<table>
<thead>
<tr>
<th></th>
<th>Day 2 (n=22)</th>
<th>Day 15 (n=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Complete success</strong>*</td>
<td>20 (91%)</td>
<td>19 (86%)</td>
</tr>
<tr>
<td><strong>Partial success</strong></td>
<td>2 (9%)</td>
<td>2 (9%)</td>
</tr>
<tr>
<td></td>
<td>1 - pain, discharge</td>
<td>2 - pain, discharge</td>
</tr>
<tr>
<td></td>
<td>1 - pain</td>
<td></td>
</tr>
<tr>
<td><strong>Failure</strong></td>
<td>0 (0)</td>
<td>1 (5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pain, discharge, congestion</td>
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</tbody>
</table>

* One case with nipple discharge that started before delivery included
## Adverse effects

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<thead>
<tr>
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<th>Day 2 (n=22)</th>
<th>Day 15 (n=22)</th>
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<tbody>
<tr>
<td>Headache</td>
<td>1 (4%)</td>
<td>4 (18%)</td>
</tr>
<tr>
<td>Dizziness</td>
<td>3 (14%)</td>
<td>3 (14%)</td>
</tr>
<tr>
<td>Nausea, vomiting</td>
<td>2 (9%)</td>
<td>2 (9%)</td>
</tr>
<tr>
<td>Hand or foot numbness</td>
<td>3 (14%)</td>
<td>2 (9%)</td>
</tr>
<tr>
<td>Hand or foot pain</td>
<td>2 (9%)</td>
<td>2 (9%)</td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td><strong>9</strong>*</td>
<td><strong>13#</strong></td>
</tr>
</tbody>
</table>

* Occurring in 6 (27%) women

# Occurring in 10 (45%) women
# Satisfaction

<table>
<thead>
<tr>
<th>Domain</th>
<th>Question</th>
<th>Response</th>
<th>N=21</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness</strong></td>
<td>Cabergoline’s ability to prevent postpartum lactation onset symptoms</td>
<td>Strongly satisfied or</td>
<td>20 (95%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Satisfied</td>
<td></td>
</tr>
<tr>
<td><strong>Side effects</strong></td>
<td>How did medication side effects affect overall satisfaction?</td>
<td>No impact or Small impact</td>
<td>19 (90%)</td>
</tr>
<tr>
<td><strong>Convenience</strong></td>
<td>How easy or difficult was it to use cabergolone?</td>
<td>Easy or Very easy</td>
<td>21 (100%)</td>
</tr>
<tr>
<td><strong>Global</strong></td>
<td>How convinced are you that taking cabergolone was good for you?</td>
<td>Strongly convinced or</td>
<td>17 (81%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Convinced</td>
<td></td>
</tr>
</tbody>
</table>
Satisfaction

“It was/would have been appropriate in my situation to receive a medication that prevents lactation (milk production)”

- **Strongly agree**: 71%
- **Agree**: 24%
- **Neutral**: 5%
- **Disagree**: 0%
- **Strongly disagree**: 0%
- **Prefer not to answer**: 0%

Recommend a medication to prevent lactation to other women:

- 21 (100%)

Specifically recommend cabergoline:

- 20 (95%)
Conclusion

o Interim analysis:
  ▪ Cabergoline appears to be an effective, well-tolerated and accepted medication for lactation suppression in women living with HIV

o Further assessment of interaction with PI based cART is planned
  ▪ Stratify side effects by antiretroviral regimen
  ▪ Analysis of PI Therapeutic Drug Monitoring (TDM) data
Thank you to all participants