Strategies to minimize time from HIV acquisition to cART initiation in a cohort of individuals with acute/recent HIV infection in Barcelona.

Lucia Bailón¹, Angel Rivero¹, Cora Loste¹, Pep Coll²,³, Jorge Saz³, Michael Meulbroek³, Patricia Cobarsi¹, Jordi Puig¹, Christian Brander²,⁴,⁵ Jose Moltó¹, Beatriz Mothe¹,²,⁵

¹ Fundació Lluita Contra la Sida, Servicio de Enfermedades Infecciosas, Hospital Universitari Germans Trias i Pujol, Badalona,
² IrsiCaixa AIDS Research Institute-HIVACAT, Badalona,
³ Projecte dels NOMS-Hispanosida, BCNCheckpoint, Barcelona
⁴ ICREA, Barcelona
⁵ Universitat de Vic – Central de Catalunya, Vic
Background/Objectives

Establishing a cohort of HIV acute/recent infection

\[\text{Link-to-care to HIV Units} \quad \text{Rapid treatment initiation} \quad \text{Time to UD.}\]

Retention in care

Platform of candidates for HIV cure trials.

**Community center for MSM Health, HIV & STI testing**

140-170 new HIV diagnoses/year

Represent 51% new cases in MSM in BCN.

PoC Technology (GeneExpert for NAT)

**MSM**

3 monthly testing

Positive

\[\text{Xpert® HIV-1 Qual (PCR)}\]

Run WB same day and Link to HIV Unit (<48h)

Negative But suspected

\[\text{Xpert® HIV-1 Qual (PCR)}\]

Repeat in 7 days if persists high suspicion of acute infection

Positive

Negative

BSL samples, ELISA; WB, VL, CD4, Genotype, HLAB27 → same day / early cART

Education program on identification of acute infection

Retention in care
Methods

Early_cART Cohort (2013 Q4-2018 Q4)

Suspected Acute/Early HIV n=325

Excluded:
Not confirmed (n=48)
False HIV positive (n=7)
Withdraw IC (n=3)
Do not start cART/Discontinue cART(n=13)
Moved to another hospital (n=23)
Not pre_cART samples (n=3)
LOFU for >1.5 yrs (n=12)
Others (n=2)

Confirmed Acute/Early HIV n=270

Retained in-care & on_cART n=214

Study variables:

- Demographic data
- Estimated date of HIV acquisition
- Time from acquisition to start treatment (to be <6m)
- Fiebig stage at cART initiation
- Link-to-care
- Retention-in-care

To estimate date of HIV-1 acquisition

<table>
<thead>
<tr>
<th>Fiebig</th>
<th>0- Know exposure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<td>0</td>
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<td>I</td>
<td>II</td>
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<td>VI</td>
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<td>7-21d</td>
<td>18-24d</td>
<td>21-25d</td>
<td>21-29d</td>
<td>30-90d</td>
<td>&lt;6m</td>
<td>Middle point</td>
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Year Follow-up
1st, 2nd 3 months
3rd 6 months
4th and on 12 months
**Results**

- **98%**
  - **34 (±9) years old**
  - **95.5% (258)**
  - **Spanish 57% (154)**

- **CD4 : 508 cels/ml**
- **CD8 : 1003 cels/ml**
- **Ratio: 0.64 (ds 0.41)**
- **pVL 1.335.685 cp/ml**

**Implementation of Cohort**

- **Total new diagnosis (n=270)**
- **Retained in-care & on_cART n=214**

<table>
<thead>
<tr>
<th>Year</th>
<th>&lt;1 yr</th>
<th>&gt;1 yr</th>
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<th>&gt;3yrs</th>
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<td>136</td>
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<td>2018</td>
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- **Median time in link-to-care (range):**
  - Mann-Whitney: \( p=0.001 \)
  - **10 (1-35)**

- **Median time from HIV to cART (range):**
  - Mann-Whitney: \( p=0.0329 \)
  - **68 (15 - 131)**

- **Progressive reduction in time to viral suppression**
**Conclusions**

- **Acute/early infections** were confirmed in one third of new HIV diagnoses in a community center.

  → Standardize and increase the diagnosis of Acute/Recent HIV infection in BCN by using / enhancing already existing resources

- **Reduction in referral time to HIV units after diagnosis** translated into a shorter time with detectable HIV viraemia in early stages of HIV infection.

  → Reduce ‘community’ pVL → transmission to others

- Provides a platform of potential candidates to be enrolled in cure strategies trials.

- Allows storage of biological samples longitudinally, before and after cART initiation, permitting viral & immunopathogenesis studies.

Viral Reservoir kinetics in early_cART. Meta-HIV a.

90-90-90
An ambitious treatment target to help end the AIDS epidemic

ARBR
BCN01 b
BCN02
AELIX002

>Therapeutic vaccine clinical trials

 impacts of AntiRetroviral Therapy on BRain OutcomEs

n ≈ 70

(a) Noguera J, Ebiomedicine 2016.
(b) Mothe B, EClinicalMedicine, 2019.