Dr Alejandro Arenas-Pinto  
University College London

<table>
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<th>Speaker Name</th>
<th>Statement</th>
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<tr>
<td>Alejandro Arenas-Pinto</td>
<td>Has acted as speaker at a company-sponsored event (Janssen-Cilag Ltd) and has received personal grants for attending conferences and research from Abbott, Bristol-Myers Squibb and Janssen-Cilag Ltd</td>
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<td>Date</td>
<td>April 2013</td>
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Neurocognitive test results from contemporary trials: what do they tell us?

Alejandro Arenas-Pinto
MRC- Clinical Trials Unit and
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Factors reported to be associated with Neurocognitive Impairment (NCI)

- Nadir CD4 cell count\textsuperscript{1,2}
- Baseline HIV-RNA > 1,000,000 copies/ml\textsuperscript{2}
- Preexisting CVD\textsuperscript{3}
- Education level\textsuperscript{4}
- Central obesity\textsuperscript{5}

Cross-sectional data

Lack of appropriate comparator group
Lack of universally accepted criteria for NCI
Little information on effect of ART interventions

1. Ellis et al AIDS 2011; 25: 1747 - 51
3. Wright et al Neurology 2010; 75: 864-73
The prevalence of neurocognitive impairment in HIV-infected patients may be lower than previously reported.

- Cross-sectional (N= 200)
- Early stage (<6 years)
- HIV-uninfected Controls (N= 50)
- 8 cognitive domains
- Only factor associated with NCI:
  
  Longer time on education (OR 1.24 per year; p 0.02)

Crum-Cianflone et al *Neurology* 2013; 80: 371 - 9
Cognitive Impairment in People with and without HIV in the European Region

- Assess if mild neurocognitive defects in HIV positive and HIV negative MSM are associated with increased risky sexual behaviours

![Graph showing Frascati HAND prevalence compared to GDS Impaired/unimpaired rates.]

- Cross-sectional (N=1,200)
- UK, Italy, Poland, Belarus and Denmark
- HIV-uninfected Controls (UK)
- CogState plus Verbal fluency and executive functioning

McDonnell et al. CROI 2013 (Poster 453)
Longitudinal data

- Cohort studies looking at specific population groups
Adolescents and Adults Living with Perinatal HIV Cohort (AALPHI)

HIV-infected group (N= 400)
HIV-negative group (N= 300)
  • Living in the same household as case or have an HIV positive parent or sibling

**Study questions**
- Neurocognitive function and psychosocial issues
- Cardiovascular disease
- Metabolic complications
- Sexual and reproductive health
- Anthropometry and body composition

**Neurocognitive testing**
- 7 Cognitive domains
- Depression (HAD scale)
- QoL
- Recreational drug use
- Alcohol intake
- Self-harm
- Other risky behaviours
Randomised data

- Management of HIV-associated CI

Rivastigmine improves psychomotor speed and, marginally, executive functioning in HIV+ patients with HAND and undetectable HIV viral load in both plasma and CSF

Simioni et al Neurology 2013; 80: 553 - 60
Maraviroc Intensification Leads to Improvement in Neurocognitive Test Performance and Declines in Immune Activation

- Single arm study (N=12)
- Secondary endpoint:
  - Change in neuropsychological testing performance at week 24
- Virologically suppressed patients
- MVC intensification for 24/52

- Modest improvement on NPZglobal score (mean 0.26) from baseline to week 24
- Performance in tests measuring psychomotor speed particularly better in impaired patients
A Simplification Study of unboosted ATV with ABC/3TC (ASSURE)

Robertson K et al. CROI 2013 (Poster 410)
Cognitive function change overtime: the Altair trial

- To assess the dynamics of neurocognitive function changes over 48-week period within a neurologically asymptomatic ART naïve patients

- RCT (N= 28)
- TDF/FTC with EFV, ATV/r or AZT/ABC
- 7 cognitive domains at BL, W24 and W48
- Overall improvements in NC function
- Greater improvement in groups 2 and 3: A drug effect?

On-going RCT exploring cognitive function

- ART naïve patients:
  - NEAT
    - TDF/FTC/DRV/r vs. RAL/DRV/r
    - N= 400 (200 per arm)
    - Baseline and week 96

- Early ART initiation:
  - START
    - CD4 ≥ 500 cell/ml vs. CD4 ≥ 350 cell/ml
    - N= 600 (300 per arm)
    - Baseline, months 4,8 and annually
On-going RCT exploring cognitive function (2)

- ART experienced patients:
  - PI/2NRTI vs. PI/RAL vs. PI monotherapy
    - N= 1,277 (Africa)
    - Baseline, and annually
  - PI monotherapy vs. Standard cART
    - N= 576 (random 1:1)
    - Baseline, week 12 and annually
British HIV Association
BHIVA

19th Annual Conference of the British HIV Association (BHIVA)

16–19 April 2013 #BHIVA2013

Manchester Central Convention Complex