The Australian Imaging Biomarkers and Lifestyle Flagship Study of Ageing

(AUSTRAŁIAN ADNI)

November 2014 UPDATE
Christopher Rowe MD – Neuroimaging stream leader

October 2006

- 823 not imaged
- 738 not imaged
- 632 not imaged
- 288 imaged PiB
- 230 imaged PiB
- 192 imaged PiB
- 102 Flutemetamol
- 98 Florbetapir
- 300 Not imaged
- 30 PiB
- 110 PiB/NAV4694

0 yrs 1.5 yrs 3 yrs 4.5 yrs 6 yrs

- 1112 recruited
- 968
- 824
- 718
- 598 (54%)

New cohorts

- 99 new Florbetapir
- 145 new Flutemetamol

October 2014

- 54% retention.
- 10% deceased.

- 240 for TAU imaging

- 150 Vietnam AIBL-VETS
4.5 year data release

PiB Baseline (288), 3 years (173), 4.5 yrs (141)
Plus 230 added from original cohort
(flutemetamol, florbetapir or PiB at 4.5 yrs)
i.e. amyloid scan status known in 371 subjects
with 4.5 yrs of follow-up.

Plus 250 new recruits (160 flute, 90 FBP)

www.adni.loni.usc.edu - Data and Samples
- Access Data
610 research groups granted access to AIBL@LONI through ADNI website

Includes access granted to the following companies:
HA Aβ+ 54 months: Effect of APOE & BDNF

EM = AIBL Episodic Memory Composite

Lim YY et al. Molecular Psychiatry 2014
Differentially expressed exosomal miRNA in AD patients

– 17 miRNA were found to be significantly deregulated ($p$ (AD Vs HC) $\leq 0.05$)
– There are two major clusters:
  • Cluster 1 contains 15 miRNA which were found to be up-regulated.
  • Cluster 2 contains 3 miRNA which were found to be down-regulated.
– Validation in 15 AD and 35 Healthy Controls blind to diagnosis using qPCR:
  • 13/15 AD correctly identified (Sensitivity of 87%) (2 patients high Aβ / APOε4 negative)
  • 27/35 HC correctly identified (Specificity of 77%) (5 subjects high Aβ / 3 APOε4 positive)

*Andrew Hill et al. Molecular Psychiatry 2014*
**Future Directions for AIBL Imaging**

- Further refine prognostic value and comparative effectiveness of imaging and blood biomarkers
- Examine genetic and environmental influences on rate of decline in Aβ+ve HC
- Tau imaging
- Create a new pool of amyloid scan positive HC and MCI for early intervention trials
- Use AIBL infrastructure to support the A4 and DIAN therapy trials
Acknowledgements and thanks

AIBL is a large collaborative study and a complete list of contributors and the management committee can be found at www.aibl.csiro.au

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