

Funding for Cognitive Imaging

<https://neurodegenerationresearch.eu/survey/funding-for-cognitive-imaging/>

Principal Investigators

Professor R Wise

Institution

Imperial College London

Contact information of lead PI Country

United Kingdom

Title of project or programme

Funding for Cognitive Imaging

Source of funding information

MRC

Total sum awarded (Euro)

€ 942,823

Start date of award

01/04/2012

Total duration of award in years

4.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Research Abstract

The future programme is investigating three disease groups with MRI techniques; left hemisphere stroke patients with aphasia; patients with mild-to-moderate Alzheimer's disease; and patients with chronic temporal lobe epilepsy. All patient groups will undergo anatomical volumetric scanning, diffusion tensor imaging to investigate white matter tract integrity, and functional MRI (fMRI). The scanning data will be analysed using FSL software (FMRIB, Oxford, UK). The functional data will be analysed using both univariate statistics, to observe regional effect size, and multivariate statistics (principally independent component analyses), to assess

functional connectivity across the brain. The stroke project is designed to observe the natural change in language impairment over the three months after stroke, at which time recovery is usually maximal. Early and late scanning sessions will assess lesion size and distribution, the integrity of intrahemispheric language tracts within the left hemisphere, and changes in the distributed connectivity across the brain that relate to better natural recovery. The hypothesis is that these measures will give a reliable set of imaging biomarkers that predict outcome after aphasic stroke. The project on Alzheimer's disease is specifically investigating the integrity of the right fronto-parietal network for sustained attention. Our hypothesis is that the forgetfulness of AD patients is partly due to a failure to register information, in addition to problems with memory encoding and retrieval. We have piloted a behavioural verbal task that robustly activated the right fronto-parietal system, and this will be applied to AD patients before and after treatment with a disease-modifying agent. The TLE project is using DTI and fMRI to investigate the reorganisation of semantic memory temporal lobe networks in response to repeated clinical and sub-clinical seizure activity. This addresses issues about anterior temporal lobectomy.

Lay Summary

Further information available at:

Types:

Investments > €500k

Member States:

United Kingdom

Diseases:

Alzheimer's disease & other dementias

Years:

2016

Database Categories:

N/A

Database Tags:

N/A