Profiling dementias using complex sound: from symptoms to brain networks.

https://neurodegenerationresearch.eu/survey/profiling-dementias-using-complex-sound-from-symptoms-to-brain-networks-2/

Name of Fellow

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Institution
Funder

Wellcome Trust

Contact information of fellow
Country

United Kingdom

Title of project/programme

Profiling dementias using complex sound: from symptoms to brain networks.

Source of funding information

Wellcome Trust

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01/08/10

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6.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Alzheimer | Cognitive impairment | Dementia | Neurodegen

Research Abstract

Detailed pathophysiological understanding of dementias is essential for development and

evaluation of therapies. Here I will adopt a multi-disciplinary behavioural and neuroimaging approach that uses an important and general class of symptoms impaired complex sound processing to probe brain structure and function in two common dementias, Alzheimer s and frontotemporal lobar degeneration. Key goals are to characterise deficits of complex sound (environmental sounds, music, voices, speech); an d to relate behavioural signatures to structural and functional MRI changes, cross-sectionally and longitudinally, in patients compared with healthy older controls and individuals at-risk of familial dementias. The emerging paradigm of neurodegenerative network dysfunction will be explored. Subjects will have annual clinical and neuropsychological assessments, structural-volumetric and functional MRI paradigms designed to test specific hypotheses about brain bases for disordered complex sound pr ocessing in neurodegenerative dementias, motivated by previous normal and clinical work. MRI data will be analysed with unbiased techniques including morphometric and registration algorithms, statistical parametric mapping, cortical thickness and connectivity measures, and findings integrated with behavioural, genetic and pathological data using parametric and non-parametric statistics. Translational opportunities include improved clinical understanding of key dementia diseases, new diagnostic a nd progression biomarkers, and identification of pathophysiological mechanisms that could become therapeutic targets.

Types:
Fellowships

Member States:
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Diseases:
Alzheimer's disease & other dementias

Years:
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