

Primary Progressive Aphasia: Cognition, Anatomy and Progression

<https://www.neurodegenerationresearch.eu/survey/primary-progressive-aphasia-cognition-anatomy-and-progression/>

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Country

USA

Title of project or programme

Primary Progressive Aphasia: Cognition, Anatomy and Progression

Source of funding information

NIH (NIA)

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15/07/2004

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2

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Primary Progressive Aphasia, Anatomy, Cognition, Language, Frontotemporal Lobar Degenerations

Research Abstract

DESCRIPTION (provided by applicant): Speech and language deficits are often the very first

symptoms of neurodegenerative diseases, such as frontotemporal lobar degeneration and Alzheimer's disease. When speech and language deficits remain isolated for the initial phases of the disease, the term "primary progressive aphasia" (PPA) applies. Characterization of the linguistic impairments can provide information critical for early differential diagnosis, but speech and language functions are rarely assessed in the setting of dementia clinics. Moreover, data from large-scale longitudinal clinical and neuroimaging studies of PPA are not available to guide clinicians in making diagnostic, prognostic or therapeutic decisions. We propose a detailed, five-year longitudinal study of the linguistic, anatomical and biological features of over 300 patients with PPA, thus extending the work we began in 2004. The accrual of this large cohort is possible because the UCSF Memory and Aging Center is the site of an NIH-funded program in atypical and early-age-of-onset dementias. The research project proposed here will take advantage of the infrastructure offered at UCSF and will complement the program by bringing specific linguistic and neuroimaging expertise to the study of the clinical, cognitive and neural mechanisms underlying PPA. In Aim 1 we will correlate scores in novel language domains with regional brain volumes; in Aim 2 Q-ball tractography, resting state and activation functional MRI will be used to investigate alterations in structural and functional connectivity in the language networks in PPA and correlate them with linguistic deficits; and in Aim 3 we will apply multivariate statistical methods to study the progression of PPA and associate longitudinal multidisciplinary data with clinical outcomes or post-mortem pathological findings. We will identify patterns of progression typical of each PPA variant and explore whether results from a comprehensive longitudinal assessment can predict pathological subtypes, in-vivo. Evidence gathered from this research will increase our knowledge about the neural basis of speech and language functions and provide crucial data for the diagnosis of neurodegenerative diseases in their early stages, when treatment can be most effective.

Lay Summary

The research focuses on speech and language symptoms that are the manifestation of fatal neurodegenerative diseases. We will study these linguistic deficits and their neural correlates using the most modern cognitive and neuroimaging techniques, with the goal of improving early differential diagnosis and ultimately treatment of these devastating disorders. Results from this study will also further our knowledge regarding the neural basis of language.

Further information available at:

Types:

Investments > €500k

Member States:

United States of America

Diseases:

Alzheimer's disease & other dementias

Years:

2016

Database Categories:

N/A

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