FEATURES OF PRE-CLINICAL LANGUAGE CHANGE IN MCI: DIAGNOSTIC AND PROGNOSTIC INDICATORS

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Introduction: Mild cognitive impairment (MCI) is an intermediate state between the onset of cognitive difficulties and more pronounced decline leading to dementia. It has long been recognized that the early stages of Alzheimer's disease (AD) are associated with impairments in spoken language, yet the precise nature of these changes has not been comprehensively addressed.

Aims: The primary objective was the identification of diagnostic markers of MCI using a cross-sectional analysis of linguistic indices. A secondary aim was to identify prognostic markers that would predict progression from MCI to AD. Both aims were pursued by analyzing samples of connected speech using previously validated linguistic dimensions.

Methods: Fifteen MCI cases (all with neuropathological confirmation of AD) and 15 matched controls were identified from the Oxford Project to Investigate Memory and Aging longitudinal database. Transcripts of the Cookie Theft picture description task were selected from 6-18 months, and 18-24 months prior to conversion to AD. The transcripts were subjected to two previously published methods of discourse analysis in aphasia.

Results: Spontaneous speech errors in MCI were variable. Samples were characterized by errors in fluency and syntactic structure. Phonological errors were rare. Over time, changes became evident in reduced complexity of sentences, reduced fluency of speech and breakdown in syntactic structure.

Conclusions: Pre-clinical language decline in samples of connected speech can be identified using multidimensional discourse analysis. Delineating a distinctive linguistic signature may allow automated analysis of spoken language to serve as a diagnostic and prognostic indicator for those with equivocal cognitive complaints.