

neurology examinations, and his cognitive functioning was assessed with an outpatient neuropsychological evaluation approximately six months post-discharge. Record review, including clinical notes, lab tests, and imaging results supplement his outpatient neuropsychological evaluation performance.

Results: Data from a comprehensive outpatient neuropsychological evaluation approximately six months after WE diagnosis is presented. His cognitive profile was characterized by impaired performance on measures of verbal fluency and memory, including encoding and retention of verbal and visual information (with minimal benefit from cueing). Given these impairments and continued functional declines related to cognitive deficits, he met criteria for a Major Neurocognitive Disorder. These results demonstrate persistent cognitive deficits beyond the acute WE period.

Conclusions: WE is a serious neurological condition that can have lasting cognitive effects if left untreated. This case demonstrates persistent cognitive impairments six months after WE diagnosis in a young patient with an unremarkable alcohol history. These findings highlight the necessity of increased diagnostic efficiency of WE in non-alcoholic patients, as immediate thiamine treatment is essential to the recovery process. Neuropsychological functioning at a longer interval will be useful in further elucidating cognitive prognosis as well as providing quality of life recommendations.

Categories: Memory Functions/Amnesia

Keyword 1: Korsakoff's syndrome/Wernicke's encephalopathy

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45 Longitudinal Performance on Three Words Three Shapes Test in Primary Progressive Aphasia

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Objective: Primary progressive aphasia (PPA) is a dementia syndrome characterized by initial development of progressive language deficits in the absence of impairment in other cognitive domains. It has historically been difficult to assess the presence or nature of true memory deficits in this population due to interference from language disturbance on task performance. The Three Words Three Shapes test (3W3S) is a relatively easy memory task that evaluates both verbal and nonverbal memory within the same modality and assesses different aspects of memory, including incidental encoding, effortful encoding, delayed recall, and recognition. Persons with PPA show a material-specific dissociation in performance on 3W3S; specifically, deficits in incidental encoding and recall are limited to verbal, not nonverbal material, in PPA, with preserved recognition of both types of information. However, it is unknown whether this pattern persists over time as the disease progresses.

Participants and Methods: Participants were 73 participants enrolled in an observational PPA research study at the Mesulam Center for Cognitive Neurology and Alzheimer's Disease (*Age* = 66.75 years, *SD* = 6.77; *Meducation* = 16.11 years, *SD* = 2.38; 51% female). Participants were subtyped as semantic (*n* = 15), logopenic (*n* = 27), or agrammatic PPA (*n* = 31) based on Gorno-Tempini et al., 2011, using 3W3S and other neuropsychological measures as described previously. Participants were followed at 2-year intervals and tests were administered longitudinally. All participants in the current study had 3W3S scores from at least two research visits collected between September 2012 and September 2022.

Results: There were no significant baseline group differences on 3W3S performance, except for better incidental encoding in the logopenic than the semantic group for shapes ($p = .040$) and words ($p = .043$). We then conducted a mixed measures ANOVAs to determine baseline within-person comparisons between words vs shapes. Within individuals, performance on incidental encoding, effortful encoding, and recognition was worse for words than shapes ($ps < .01$). There was an interaction between material and group for delayed recall ($p < .001$) such that there was a significantly larger discrepancy between word and shape recall in the semantic ($M_{diff} = -9.14$) compared to logopenic ($M_{diff} = -3.07$) and agrammatic groups ($M_{diff} = -2.13$). Repeated measures ANOVAs determined changes in scores over time

collapsed across PPA subtypes. Incidental encoding ($ps = <.01$), effortful encoding ($ps < .05$), and delayed recall ($ps < .01$) declined for both words and shapes over time. Copy and recognition of words ($ps < .05$), but not shapes declined over time.

Conclusions: The current results are consistent with prior findings of relative preservation of memory for nonverbal compared to verbal material in PPA as measured by 3W3S, especially in the semantic subtype. Learning and recall of words and shapes declined over time in all groups, whereas there was selective decline in copy and recognition of words compared to shapes. These results provide evidence of differential patterns of decline in certain aspects of memory over time in PPA and highlight the relative preservation of memory in this language-focused dementia even over time.

Categories: Neurodegenerative Disorders

Keyword 1: neuropsychological assessment

Keyword 2: aging disorders

Keyword 3: language: aphasia

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46 Intrusions in Verbal Fluency Tasks in Mild Cognitive Impairment and Dementia: A Longitudinal Analysis

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Objective: Research shows intrusions in memory tests can predict cognitive impairment in abnormal aging. However, there still is a need for additional research regarding the association of intrusions in verbal fluency tasks and clinical diagnosis of mild cognitive impairment, and dementia. The aim of this research is to determine if there is an association between intrusion totals in verbal fluency tasks and diagnosis, longitudinally (across 3 years), if there are significant differences between category and phonemic fluency tasks in intrusion total scores, and if progression from cognitively normal (CN) to mild cognitive impairment (MCI)

or dementia and from MCI to dementia can be indicated through differences in intrusion scores.

Participants and Methods: Participants were recruited from the Memory Disorders Center at Wien Center for Alzheimer's Disease and Memory Disorders at Mount Sinai Medical Center in Miami, Florida to take part in the ongoing 1Florida Alzheimer's Disease Research Center (ADRC) project. At baseline, participants had an average of 15 years of education ($M = 15.00$, $SD = 3.65$), were an average of 72.24 years old ($M = 72.24$, $SD = 7.99$), and were 62.93% female. At baseline (Visit/ year 1), there were 88 CN, 229 MCI, and 58 dementia participants. Participants were asked to complete Categorical and Phonemic verbal fluency tasks in which correct words said and intrusions were collected. Intrusion totals were quantified as the sum of intrusions within each subsection of the tasks (i.e., fruits, vegetables, and animals for the category; F, L, A, S for phonemic). Intrusion totals and correct words were analyzed across diagnostic groups and progressor vs. non-progressor groups.

Results: Results indicated that intrusions are significantly associated with diagnosis in Phonemic fluency tasks, however, this was not the case for Category fluency tasks. Higher phonemic fluency task intrusions were associated with more severe cognitive decline. In progressor versus non-progressor groups there were no significant differences in intrusion totals. Lower correct scores for category and phonemic fluency tasks were found to be significantly associated with increased severity of diagnosis. Lower correct scores also significantly predicted progressor classification. **Conclusions:** These findings suggest possible association of higher intrusion errors in verbal fluency tasks with more severe cognitive decline. Although these indications were significant, further research exploring intrusions and cognitive diagnosis are still needed.

Categories: Neurodegenerative Disorders

Keyword 1: neuropsychological assessment

Keyword 2: aging disorders

Keyword 3: cognitive neuroscience

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47 Assessing the Feasibility of Cardiorespiratory Exercise During Functional MRI