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67 Three Cases of Clinically Diagnosed Semantic Dementia with Lewy Body Pathology.

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Objective: Semantic variant primary progressive aphasia (svPPA) is a progressive neurodegenerative syndrome characterized by prominent impairments in naming, conceptual knowledge, and comprehension, in the setting of preserved fluency, memory, and visuospatial perception. Generally, svPPA is caused by underlying TDP-43 neuropathology. In contrast, the clinical syndrome of Lewy Body Disease (LBD) is characterized by the presence of parkinsonism and prominent attentional and visuo-spatial deficits, with relative preservation of language skills and visual hallucinations. The underlying neuropathology is Lewy bodies. Here, we describe three unique cases from the UT Health San Antonio Brain Bank of patients with clinical diagnoses of svPPA, but primary neuropathological diagnoses of LBD.
Participants and Methods: We present three cases who had clinical presentations of svPPA but were found to have LB pathology as opposed to the expected TDP-43 or FTLD pathology. We studied demographic variables in these three patients, along with neuroimaging, clinical symptoms, and patterns of neuropathology, in order to demonstrate and further understand the similarities and connections between LBD and semantic deficits.
Results: In Case 1, the patient exhibited fluent but empty speech with profound anomia. Symptoms started in his late 50s and progressed until he lost all purposeful capacity for language before his death at age 66. DaT scan was normal and brain MRI was unremarkable. Underlying neuropathology revealed diffuse LBD throughout the neocortex with intermediate Alzheimer's disease neuropathic change (ADNC), and moderate cerebrovascular disease. In Case 2, the patient exhibited language comprehension difficulties with symptom onset in his early 70s before passing away at age 76. The patient also developed changes in judgment and trouble with activities of daily living. MRI revealed left more than right mesial temporal atrophy, left more than right mild to moderate frontal and insular atrophy, and moderate small vessel disease. FDG-PET was significant for hypometabolism in the left mid-frontal region and in the bilateral anterior cingulate and medial prefrontal cortices. Neuropathology revealed diffuse LBD throughout the neocortex with a high level of ADNC, along with limbic-predominant age-related TDP-43 encephalopathy (LATE) stage 1 and moderate cerebrovascular disease. In Case 3, the patient displayed dysgraphia and anomia, starting in his mid-50s, as well as REM behavior sleep disorder. The patient's neuropathology revealed a high level of ADNC with diffuse LBD throughout the neocortex, and moderate, non-occlusive cerebrovascular disease. None of the patients exhibited the typical Parkinsonism symptoms associated with LBD, but all had prominent visual hallucinations.
Conclusions: This small case series illustrates that a small portion of subjects with underlying LBD pathology may exhibit profound language disturbance suggestive of svPPA. Additional study is warranted, and future endeavors will explore larger pathologically-confirmed samples of subjects with clinical svPPA and high degree of underlying LBD pathology.

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68 Interactive Effects of Sleep Apnea and Depression Symptoms on Cognition in Older Adults

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Objective: Sleep deprivation and depressive symptoms have been shown to negatively impact cognitive function within older adult populations (Gilley, 2022; Donovan et al., 2016). However, there is minimal research on interactions between sleep disturbance and depressive symptoms in relation to their shared impact on cognitive impairment. The purpose of this study is to examine possible interactions between sleep disorders and depression and their relationship with cognition among relatively good functioning and healthy older adults.
Participants and Methods: The sample was obtained from the Memory and Aging Project (Rush Alzheimer's Disease Center, Rush University, 2019) and consisted of 3,345 community dwelling older adults. The study analyzed data from 2552 women (76.3%) and 1093 men (23.7%). The average age of participants was 80 years and ranged from 45 to 98 years old. Measures used included the Berlin Questionnaire (risk for sleep apnea), Center for Epidemiological Studies Depression Scale (CES-D; depression), and a neuropsychological battery (visuospatial ability/perceptual reasoning and processing speed).
Results: ANOVA analyses exhibited a significant main effect of depression on visuospatial ability/perceptual reasoning ($p < .001$), processing speed ($p < .001$), and semantic memory ($p < .001$). No significant main effect was found for sleep apnea on these cognitive domains. However, when sleep apnea was analyzed between those with any depressive symptoms versus those without, significant interactions were found for visuospatial ability/perceptual reasoning ($p = .027$), processing speed ($p < .001$), and semantic memory ($p = .016$). Sleep apnea symptoms had a greater detrimental effect on visuospatial skills and perceptual reasoning ($F = 4.90$; $p = .027$) only when any depression symptom is present. In contrast, there was a steeper decline of processing speed when only depressive symptoms were present apart from sleep apnea symptoms ($F = 10.34$; $p = .001$) Similarly, depressive symptoms had a greater negative effect on semantic memory for older adults who reported no sleep apnea symptoms compare to those who did ($F = 5.83$, $p = .016$).
Conclusions: The current study indicated that while sleep apnea was negatively related to several cognitive domains, the impact became greater with the presence of depression on visuospatial skills and perceptual reasoning among older adults. However, the detrimental impact of sleep apnea was somewhat less with the presence of depression for processing speed and semantic memory. This may be due to likely higher endorsements of depressive symptoms compared to sleep apnea symptoms within the study sample. These findings suggest that there are differential interactive effects of sleep impairment and depressive symptoms on cognitive domains among older adults. Considering the relationship that exists between depression and increased disease burden among older adults, it is crucial for clinicians to also take sleep behaviors into account when examining and treating their patients. Clinicians should be mindful of their older patient's sleep health and depression measures when cognitive declines are suspected. They also suggest that cognitive performance may be improved with treating any symptoms of sleep apnea and depression in older adults.

Categories: Sleep and Sleep Disorders
Keyword 1: sleep
Keyword 2: depression
Keyword 3: cognitive functioning
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69 Poor Sleep is Associated with Bias for Negative Sleep-Related Images: Development of the Sleep Approach-Avoidance Task (SAAT)

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Objective: Insomnia affects 30-45% of the world population, is related to mortality (i.e., auto accidents and job-related accidents), and is related to mood and affect disorders such as anxiety and depression. Better understanding of insomnia via increased research will decrease the burden on insomnia. The neurocognitive