

be diagnosed with DLB to determine which symptoms would present early.

Participants and Methods: Participants included those originally diagnosed as healthy controls (n=55), MCI with DLB etiology (n=215), and DLB (n=1059). The control and MCI groups progressed to DLB at later visits in the study. NPS data were collected using the Neuropsychiatric Inventory Questionnaire (NPI-Q) that was obtained from the National Alzheimer's Coordinating Center.

Results: To determine which NPS presented early in the DLB course, we ran ANCOVAs to assess the role of original diagnosis on each NPS, using age as a covariate and applying Bonferroni correction. The control and MCI groups, who were later diagnosed with DLB, had greater severity of delusions, hallucinations, agitation, and apathy than the DLB group. The MCI group that would later be diagnosed with DLB had greater severity of anxiety and motor symptoms than the DLB group. The control group had greater irritability severity than the DLB group, and the controls had greater nighttime behavior severity than the MCI group, who had greater severity than the DLB group.

Conclusions: Overall, we found that NPS present early in those who will be diagnosed with DLB, even when they are diagnosed as healthy controls. These results suggest that examination of NPS is important even in healthy adults, and their presence may be the onset of the DLB process before an official diagnosis of the condition.

Categories: Dementia (Non-AD)

Keyword 1: dementia with Lewy bodies

Keyword 2: aging disorders

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55 The Indirect Effect of Positive Aspects of Caregiving on the Relationship between Dementia Severity and Caregiver Burden

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Objective: Caregiver burden tends to worsen as severity of dementia increases, and elevated burden can lead to negative consequences for dementia caregivers. In contrast, positive aspects of caregiving, such as feelings of being useful, needed, or appreciated as a caregiver, are associated with better outcomes. Caregivers reporting fewer positive experiences robustly demonstrate greater burden, suggesting that a lack of positive aspects of caregiving could be a key component of the relationship between dementia severity and burden. This study investigated whether an indirect effect of positive aspects of caregiving would be observed on the association between dementia severity and burden.

Participants and Methods: Data were extracted from the medical records of 724 patients enrolled for services at an outpatient memory clinic. Caregiver-care recipient dyads were included based on a clinically supported patient diagnosis on the dementia spectrum following a comprehensive geriatric evaluation and having fully completed assessments from an informal caregiver. Caregivers completed the Zarit Burden Interview (ZBI) and the Positive Aspects of Caregiving (PAC) measures. The Montreal Cognitive Assessment and Mini-Mental State Exam were used to estimate dementia severity, standardized to create a single variable. Multiple potential covariates (e.g., age, gender, education, nature of dyadic relationship) were considered for inclusion in the model. A cross-sectional mediation analysis using the Hayes PROCESS macro explored presence of an indirect effect of PAC on the relationship between dementia severity and ZBI using 5000 bootstrap samples.

Results: Of the proposed covariates, only caregiver age was correlated with any of the primary variables; this variable was controlled in subsequent analyses. Significant relationships emerged between dementia severity and ZBI ($r = -.12$, $p < .001$), between PAC and ZBI ($r = -.23$, $p < .001$), and between dementia severity and PAC ($r = -.07$, $p < .05$). An indirect effect of positive aspects of caregiving on the relationship between dementia severity and ZBI was statistically significant ($B = .0092$, BC 95% CI [.0008, .0185]), accounting for 14.4% of the variance in the model.

Conclusions: A small but significant indirect effect of positive aspects of caregiving was observed on the association between dementia severity and burden. Results suggest that as dementia severity worsens, a caregiver who experiences greater positive aspects of caregiving will sustain less burden. Longitudinal examination of these relationships is needed to fully understand causality. Findings may help healthcare providers tailor treatment to alleviate caregiver burden.

Categories: Dementia (Non-AD)

Keyword 1: caregiver burden

Keyword 2: dementia - Alzheimer's disease

Keyword 3: mild cognitive impairment

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56 Stereological Densities of Neuronal Tau Inclusions in Corticobasal Degeneration are Anatomically Distinct in PPA vs bvFTD

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Objective: Primary progressive aphasia (PPA) is a dementia syndrome characterized early in its course by gradual dissolution of language and is associated with asymmetric atrophy in the language-dominant hemisphere (usually left). In contrast, behavioral variant frontotemporal dementia (bvFTD) is a dementia syndrome characterized by a progressive early decline in personality and comportment and is associated with relatively symmetric or rightward predominant bifrontal atrophy. This study analyzed the regional and hemispheric distributions of neuronal tau inclusions of the corticobasal degeneration variant of FTLT-tau pathology (FTLD-CBD) in individuals with PPA or bvFTD. The goal was to establish clinicopathologic concordance between FTLT-

CBD and behavioral/comportmental vs aphasic dementia syndromes.

Participants and Methods: Seven participants were clinically diagnosed with PPA and 6 were diagnosed with bvFTD. All had FTLT-CBD as the principal neuropathologic diagnosis at postmortem study. Sections from the following cortical regions were stained immunohistochemically with AT-8 to visualize neuronal tau inclusions: bilateral middle frontal gyrus (MFG), inferior parietal lobule (IPL), superior temporal gyrus (STG); and unilateral occipital cortex (OCC). Bilateral anterior temporal lobes (ATL) were analyzed in PPA cases only. Unbiased stereological analysis was performed to compare regional and hemispheric distributions between and within PPA vs. bvFTD groups.

Results: Overall neocortical (MFG+STG+IPL) tau densities were significantly greater in the PPA group compared to the bvFTD group ($p < 0.05$). Within the bvFTD group, the highest densities of tau inclusions were observed in the right MFG (mean=6,871.17; SD=3,220). In the PPA group, highest densities were observed in the left ATL (mean=9,901.81; SD=6,871). There was leftward hemispheric asymmetry of tau inclusions in IPL, STG and ATL which trended towards significance in the latter ($p = 0.083$). Cortical distributions were symmetric or rightward predominant within the bvFTD group. Occipital cortex was devoid of inclusions.

Conclusions: Preliminary stereological findings of FTLT-CBD tau inclusions suggest that the distributions of pathologic tau are different across two distinct clinical dementia phenotypes. The presence of left-sided neuronal tau inclusions in PPA is concordant with the aphasic phenotype whereas symmetric and frontal-predominant densities in bvFTD are consistent with comportmental dysfunction.

Categories: Dementia (Non-AD)

Keyword 1: language: aphasia

Keyword 2: executive functions

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57 Clinical Utility of Neuropsychological Evaluation in the Differential Diagnosis Between Late-Onset Primary Progressive