DIFFERENTIATION OF NON-HALLUCINATING DEMENTIA WITH LEWY BODIES FROM CORTICOBASAL SYNDROME: NEUROPSYCHOLOGICAL AND BRAIN SPECT FEATURES

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Introduction: Dementia with Lewy Bodies (DLB) and Corticobasal Syndrome (CBS) present with atypical Parkinsonism and dementia. CBS rarely is associated with visual hallucinations, which differentiates these disorders. However, many patients with DLB do not initially manifest visual hallucinations. Therefore, identification of additional features that distinguish these disorders is important with respect to diagnostic accuracy and guiding therapy.

Aims: Identify neuropsychological and brain SPECT features that distinguish non-hallucinating DLB (NH-DLB) from CBS.

Methods: 30 NH-DLB subjects and 31 with CBS were recruited using standard diagnostic criteria. Subjects/caregivers completed neuropsychological and functional batteries. All participants underwent brain SPECT scanning using ⁹⁹ᵐTc-ECD. T-tests and Statistical Parametric Mapping were employed to compare neuropsychological and SPECT perfusion differences, respectively, between groups.

Results: NH-DLB performed worse on verbal and visual memory tasks compared to CBS. Specifically, recall on the California Verbal Learning Test (long delay free and cued recall; p< 0.001) and Weschler delayed visual reproduction (p< 0.006) were more impaired. Hypoperfusion in the left cuneus distinguished NH-DLB from CBS (T=5.3, p=0.005, Family-Wise Error-corrected), while hypoperfusion in the right middle and superior frontal gyri (T=4.1 and 3.8, respectively; p< 0.001, uncorrected) and left thalamus (T=3.6, p< 0.001, uncorrected) differentiated CBS from NH-DLB.

Conclusions: Worse performance on memory tasks distinguishes NH-DLB from CBS and suggests concomitant Alzheimer’s pathology in NH-DLB. Hypoperfusion of the medial occipital region separates NH-DLB from CBS, while that of dorsolateral prefrontal areas is characteristic of CBS. This approach may guide appropriate therapy to NH-DLB patients and spare CBS patients from side effects.