316 - Lewy Body Study: An Australian longitudinal biomarker study of dementia with Lewy bodies

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Background: Cerebral multi-morbidity is common in older people with dementia, including people with dementia with Lewy bodies (DLB). We describe the first Australian-based, longitudinal observational biomarker study of DLB.

Aims: To investigate the frequency and influence of Alzheimer's disease (AD) pathology (amyloid-β and tau) and cerebrovascular disease on clinical symptoms and disease outcome in DLB.

Methods: The study will recruit 100 people with mild to moderate probable DLB, who will undergo comprehensive clinical and cognitive assessments. Scales targeting DLB-specific clinical features (such as cognitive fluctuations and rapid eye movement sleep behaviour disorder) are administered. Biomarker protocols incorporate blood sampling (including ApoE genotyping and systemic inflammatory markers), molecular imaging (amyloid-β [18F-NAV 4694], tau [18F-MK6240], VMAT2 [18F-AV133] PET scans), 3-tesla magnetic resonance imaging and optional lumbar puncture. Clinical assessments are completed 6-monthly and imaging 18-monthly. Participants are also invited to register for post-mortem brain tissue donation.

Results: Thirty participants with probable DLB have been enrolled to date (mean age 75.4 years, range 64-82; 87% male). All participants have mild to moderate cognitive impairment (mean MMSE 25, range 17-30). Approximately 64% of the participants were amyloid-β positive. Study procedure tolerability has been excellent with no adverse events reported.

Conclusions: There is significant overlap of AD-related proteinopathies in people with DLB. Understanding the impact of multi-morbidity is essential in the development of effective treatment strategies. This study supports the feasibility of intensive, longitudinal biomarker studies in DLB in the Australian setting.

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