

UNRAVELING THE MYSTERIES OF DEMENTIA WITH LEWY BODIES AND ASSOCIATED DISORDERS: THE MONACO, NICE, MONTREAL (MNM) INITIATIVE.

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Lewy Body Dementia (LBD) is the second cause of dementia after Alzheimer's disease (AD), but still poses many challenges regarding its pathophysiological origins and its differential diagnosis with related disorders such as Parkinson's disease with dementia (PDD) and AD remains difficult. To address these issues, the present initiative aims to identify various biological and cognitive markers that allow distinguishing DCL from PDD and their respective evolution in a first step, and DCL from AD in a second one. In particular, we will address the controversy of whether a continuum exists between these disorders or whether they are separate entities that may co-occur in some patients. A multidisciplinary approach will be used, that will rely on extensive clinical expertise (neurology, radiology, nuclear medicine, geriatrics and psychiatry), as well as advanced neuroimaging and neuropsychological research methods. More specifically, each participant (diagnosed DCL, PDD, PD) will undergo MRI sessions that include T1, T2, spectroscopy, Diffusion Tensor and Magnetization Transfer Imaging, and resting state fMRI, as well as FDG PET, DATscan, and a neuropsychological assessment every 18 months. Different anatomical analysis will be performed, including deformation based morphometry, cortical thickness, and tractography and combined with clinical and neuropsychological methods. In this presentation details of this initiative will be given, as well as previous results of the different research groups to show feasibility. Finally the different scientific, clinical and collaborative repercussions of this initiative will be discussed, focusing on its potential for better diagnosis and the development of patient specific treatment of dementia.