A DISTINCT PATTERN OF CORTICAL THICKNESS CHARACTERIZE DEMENTIA WITH LEWY BODIES AND ALZHEIMER’S DISEASE

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Introduction: The pattern of cerebral atrophy characteristic of Alzheimer’s disease (AD) has been extensively studied. However, relatively less is known about the patterns of atrophy in dementia with Lewy bodies (LBD), some studies showing patterns of atrophy that overlap with AD, and others showing a distinct pattern with greater atrophy in subcortical regions; moreover the pattern of cortical thickness is unknown.

Aim: To identify the differential pattern of cortical thickness on magnetic resonance (MR) in patients with DLB and with AD.

Methods: 9 patients with LBD and 8 with AD (mean age 76 years) were recruited and underwent to cerebral MR, clinical and neuropsychological evaluation. The ‘cortical thickness’ technique was used to compute the thickness in each point of the cortical mantle in both groups. A Student t-test was applied to identify the distinct pattern of cortical thickness atrophy between AD and LBD.

Results: On the direct comparison between groups, AD patients when compared to LBD once showed a significant thickness reduction in the left inferior temporal and right postcentral gyri, in the right precuneus and occipital lobe. LBD patients, compared to AD group, showed a cortical thinning in the left anterior and right medial cingulated, in the right lingual gyrus, in the operculum and left inferior frontal gyrus.

Conclusion: A distinct pattern of cortical thickness characterize LBD and AD. A major thickness reduction in the anterior cerebral areas is typical of the LBD, whereas the cortical thinning in the posterior cerebral areas define the AD.