DIFFERENT PATTERNS OF BRAIN ATROPHY ASSOCIATED WITH MOTOR IMPAIRMENT IN MODERATE-ADVANCED DEMENTIA

J.L. Dobato-Ayuso¹, J.A. Hernández-Tamames², B. León-Salas², C. Valle de Juan², A. Rábano-Gutiérrez del Arroyo³, J.A. Álvarez-Linera², UMA-UIPA Study Group

¹Unidad Multidisciplinar de Apoyo (UMA), ²Unidad de Investigación Proyecto Alzheimer (UIPA). Fundación CIEN/Fundación Reina Sofía. Instituto de Salud Carlos III, Madrid, Spain

Introduction: Brain atrophy associated with motor deficits in dementia is not well known.

Objective: To evaluate brain atrophy associated with motor deficits in moderate-advanced dementia, depending on the etiological disease.

Patients and methods: Motor evaluation by Scopa Motor Scale and 3Tesla-MRI, with VBM study with SPM using a linear regression model was applied to two patient groups:

Group I: 60 patients with dementia due to various etiologies (Alzheimer's disease (AD) (37), Mixed AD-vascular dementia(10), Lewy body dementia(6), Parkinson-dementia complex (1), Frontotemporal dementia (1) and others (5)) (82.1±6 years, GDS score 5.8±0.75, Scopa Motor score 8.2±4.6) and

Group II: 77 AD patients (NINCDS-ADRDA criteria) (82.6±6.3 years, GDS score 5.89±0.8, Scopa Motor score 8.14±4.7).

Results: In Group I it was observed greater atrophy in premotor areas in patients with greater motor deficits (p<0.01). In Group II, greater atrophy in middle Gyrus Cinguli (GC) with greater motor affection (p<0.003) was found. There were no significant differences in atrophy in basal ganglia in both groups.

Conclusions: Motor impairment in advanced dementia considered as a syndrome, may be associated with atrophy in motor processing cortical areas. However, in AD it seems more associated with atrophy of middle GC (related to motor processing), that may be due to secondary atrophy in relation to degeneration of motor neocortex with it connects. The intense neocortical atrophy in late AD, may possibly explain the lack of significant differences in these cortical locations, mainly in AD but not in other dementias.