MEDIAL TEMPORAL ATROPHY A RELIABLE PREDICTOR FOR PROGRESSIVE COGNITIVE DECLINE IN MILD COGNITIVE IMPAIRMENT SUBJECTS

S.M. Deme[1], C.D. Jianu[2], D.S. Ioncu[2], S. Kory-Calomfirescu[3]
Western "Vasile Goldis" University of Arad, Romania, Arad[1];
Victor Babes University of Medicine and Pharmacy, Timisoara[2]
Iuliu Hatieganu University of Medicine and Pharmacy, Cluj Napoca[3], Romania
sandademe@yahoo.com

Background: Medial temporal lobe atrophy (MTA) influences the mechanisms of memory.The diagnosis of mild cognitive impairment (MCI) is not clinically useful for predicting the development of severe cognitive impairment.
Objective: To identify if medial temporal lobe atrophy and MMSE can correlate and predict the evolution of a subject from MCI to severe cognitive impairment.
Subjects and method:31subjects withMCI and 20healthy case-control subjects were examined using brain MRI with standardized visual assessment of MTA.The cognitive performance was evaluated using the MiniMentalStateEvaluation(MMSE).Follow-up assessment was performed at 18months to detect further cognitive decline, or improvement atMMSE.
Results:The MCIgroup's average age was70+/-2.8years,64.5%males.In case-control group the average age was68+/-1.9years,60%males.At baseline the mean MMSEscore in MCIgroup was 24.2points(MCIscore21-26) and 29.7for case controls.On MRI the MTAwas present in25.8%(n=8) in MCIgroup and 15%(n=3)in case-controls.At 18months,36.66%(n=11) of the subjects in MCIgroup presented severe cognitive impairment(MMSE<10),of which 7with MTAat admission(p<0.001,CI95%).In case-controls 2subjects had severe cognitive impairment,of which 1 had MTAat admission. The association of hypertension(p=0.023,CI95%),dyslipidemia(p=0.012,CI95%)and diabetes mellitus correlated to cognitive decline at follow-up,but were not associated to progression from MCI to severe cognitive impairment.In the MCIgroup 4subjects improved at follow-up on MMSE scale.The MMSEscores did not correlate to a pattern of cognitive decline in none of the two groups.
Conclusions: The neuropsychological testing using MMSE can identify subjects with cognitive decline, but it is not a prognostic tool for cognitive decline progression.The MTA correlated more specific to severe cognitive decline and may serve as a risk assessment tool, maybe more powerful if correlated to other biological parameters.