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Title: **Neuropsychological markers are sensitive for early detection of mild cognitive impairment: results from the Vallecas project**

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Abstract: Objectives: Early detection of cognitive impairment has a paramount importance to improve health care quality of patients. The present work aims at studying the capability of a set of neuropsychological parameters in order to predict the conversion to Mild Cognitive Impairment (MCI) in a sample of older adults. Materials and methods: The participants of this study comprised 920 community-dwelling individuals aged 70 years and over (age=75.0±3.9 years; 63.4% women; education=10.5±6.5 years). All of them were part of the Vallecas Project cohort, a community-based prospective research for early detection of Alzheimer´s Disease. To be considered eligible for participating in this study, subjects had to have been diagnosed as cognitively healthy at baseline. Participants underwent annually a complete evaluation consisting of blood extraction, neurological exam, neuropsychological assessment and neuroimaging study. After each visit every participant was independently diagnosed at consensus meetings according to clinical criteria. Results: Participants were followed up for a median of 38 months (range 11-61). During this time 77 individuals (8.4% of the sample) were identified as converters to MCI. Adjusted Cox proportional hazard regression models were conducted to control for demographic, clinical and genetic variables. After adjustment, the majority of neuropsychological parameters at baseline showed significant association with conversion to MCI. Specifically, free recall of verbal information, both immediate (HR=0.90; 95%CI=0.85-0.96; p=0.001) and delayed (HR=0.78; 95%CI=0.69-0.89; p<0.001), showed the greatest sensitivity to detect MCI converters, even above clinical and genetic variables. Individuals who score below 19 in immediate or 7 in delayed free recall should be considered as high-risk and then might need special attention in terms of early interventions. Discussion: Neuropsychological parameters are sensitive enough to detect future cognitive decline in older adults. Ultimately the combination of neuropsychological data along with other clinical information increases the predictive value.