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EVENT-RELATED POTENTIALS IN MILD COGNITIVE  
IMPAIRMENT

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Mild cognitive impairment (MCI) describes non-demented elderly individuals with an isolated episodic memory deficit that is often a transition state between normal aging and Alzheimer's disease. Thus, the study of MCI offers insight into the changes in brain and cognitive function that occur before the widespread cognitive deficits of AD are present. Event-related potentials and reaction time were examined in elderly controls, MCI, using a target detection paradigm consisting of a sequence of high-pitched target tones ( $P=0.20$ ) randomly mixed with low-pitched tones ( $P=0.80$ ). Subjects pressed a button in response to target tones. Measures were a pre-stimulus readiness potential (RP), post-stimulus potentials (P50, N100, P200, N200, P300), and reaction time. Accuracy was equivalent between groups, with a trend for longer reaction times in MCI. Two potentials differed between groups: (1) P50 amplitude and latency were significantly increased in MCI; and (2) P300 latency was significantly longer in MCI. We conclude that brain potentials in MCI subjects during target detection have certain features similar to healthy aging (RP, N100, P200, N200), and other features similar to Alzheimer's disease (delayed P300 latency, slower reaction time). Findings will be discussed in relation to clinical and neuropathological aspects of Alzheimer's disease and the problem of early detection.

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