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Poster presentation

Clinical and neuroimaging correlates of abnormal short-latency somatosensory evoked potentials in elderly vascular dementia patients: a psychophysiological exploratory study

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Background

Short Latency Somatosensory Evoked Potentials (SEPs) may serve to the testing of the somatosensory tract function, which is vulnerable and affected in vascular encephalopathy. The aim of the current study was to search for clinical and neuroimaging correlates of abnormal SEPs in vascular dementia (VD) patients.

Material and Methods

The study included 14 VD patients, aged 72.93 ± 4.73 years, and 10 controls aged 71.20 ± 4.44 years. All subjects underwent a detailed clinical examination, blood and biochemical testing, brain MRI and were assessed with the MMSE. SEPs were recorded after stimulation from upper and lower limbs. The statistical Analysis included 1 and 2-way MANCOVAs and Factor analysis.

Results

The N13 latency was significantly prolonged, the N19 amplitude was lower, the P27 amplitude was lower and the N11-P27 conduction time was prolonged in severely demented patients in comparison to controls. The N19 latency was prolonged in severely demented patients in comparison to both mildly demented and controls. The same was true for the N13-N19 conduction time, and for the P27 latency. Patients with subcortical lesions had all their latencies prolonged and lower P27 amplitude.

Discussion

The results of the current study suggest that there are significant differences between patients suffering from VD and healthy controls in SEPs, but these are detectable only when dementia is severe or there are lesions located in the subcortical regions. The results of the current study locate the abnormal SEPs in the white matter, and are in accord with the literature.