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Poster Session 3

Assessment of cervical and ocular vestibular evoked myogenic potentials in multiple sclerosis(MS) patients

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Multiple sclerosis (MS) is one of the most important chronic neurological disease affecting the central nervous system and is the leading cause of disability due to brainstem affiction. Vestibular evoked myogenic potentials (VEMPs) are short-latency muscle responses.

Cervical VEMP (Cvemp) is a demonstration of vestibule-collic reflex, while ocular VEMP (oVEMP) which is a manifestation of vestibulo–ocular reflexes.

Aim

The aim of this study was to assess cVEMP and oVEMP in MS patients with and without brainstem lesion(s) and comparing the findings with normal controls.

Subjects & methods

Both latency and amplitude of cVEMP (p13-n23) and oVEMP (n10-p15) were recorded in10 healthy matched controls, 10 MS patients with BS lesion(s)and 10 MS patients without BS lesion(s). All patients underwent a complete audiological examination, clinical neurological evaluation and brain MRI scanning.

Results

The latency of P13-N23 and N10-P15 in MS participants with and without BS lesions were significantly prolonged compared to normal controls ($p \leq 0/05$). Additionally latency of P13-N23 and N10-P15 in patients of MS with BS lesion(s) were significantly prolonged compared to patients without BS lesion(s) ($p \leq 0.05$). No relationship was found between the clinical state and VEMP responses. No relationship was found between the radiological findings of the patient and VEMP responses except for the group of MS with BS affection. A good correlation was found between VEMP latencies and EDSS.

Conclusion

Abnormality of cervical VEMP and ocular VEMP in patients of Multiple Sclerosis with brainstem lesion(s) are more frequent than in patients of Multiple Sclerosis without brainstem lesion(s) .

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Poster Session 3

Dexterity, attention and working memory in patients with Parkinson's disease

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Objective

Disturbed manual dexterity is common among patients with Parkinson's Disease(PD), even in early stages of the disease and may be less responsive to pharmacological treatment. Cognitive impairments are associated with old age and severe motor symptoms and occur mostly in the later stages. The aim of this study is to investigate hand dexterity, attention and working memory and their association in patients with PD.

Methods

PD patients were grouped according to Hoehn and Yahr staging as early-stage (1–2, Group1; $n = 16$) and mid-stage (3–4, Group2; $n = 16$) Hand dexterity, attention and working memory were assessed with Nine Hole Peg Test(NHPT), Stroop Color-Word Test (SCWT) and subtests of Wechsler Memory Scale-Revised(WMS-R), respectively.

Results

The mid-stagers' NHPT, Logical Memory-II subtest of WMS-R and SCWT scores were worse than early-stagers'($p < .05$). However, it was seen that the groups had similar properties in terms of WMS-Digit Span ($p > 0.05$). The relation between left hand dexterity (NHPT), attention and memory were significant ($p < .05$). While the stage of PD was correlated with NHPT, SCWT and WMS-Logical Memory I ($p < .05$), we could not find a significant relationship with the rest of WMS-R subtests($p > .05$).

Conclusion

Dexterous impairment leads to difficulties in activities of daily living (ADL) that require fine motor skills, especially with the progression of the PD's stage. These could be in association with the deficient cognitive performance, which could be appear in early-stage PD patients. Cognitive assessment and dexterity could be in the context of assessment and treatment of PD patients from the early terms with multidisciplinary approach.

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Poster Session 3

ICF biopsychosocial model for self-care perspective to understand the dexterity and independence in patients with multiple sclerosis