

## **Occurrence of optic neuritis and visual evoked potential characteristics in a group of Multiple Sclerosis patients in Sri Lanka**

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Optic neuritis (ON) is a common presentation in multiple sclerosis (MS). Visual evoked potential (VEP) is the main stay of the diagnosis of ON, of which P100 wave is used to measure the rate and amplitude of nerve conduction. Until now there were no studies conducted to determine the degree of P100 wave amplitude and latency and their relationship with occurrence of clinically apparent ON in MS patients in Sri Lanka. The objective of the study was to determine the occurrence of P100 latency delay in eyes with and without optic neuritis, of a group of MS patients.

Study sample consisted of 46 eyes of 23 definite MS patients with VEP reports. Detailed history and a nervous system examination were performed. Patients with following features were categorized as having clinically apparent ON; abrupt deterioration of vision (distant or close) in one or both eyes and/or changes in colour vision with or without ocular or retro orbital pain associated with the visual symptoms and visual symptoms aggravated due to heat. Following examination findings were used to clinically diagnose ON; reduction of visual acuity, impaired colour vision, altitudinal field defects, central scotoma, papillitis and decreased pupillary light reaction.

Details on amplitude and latency of P100 response of VEP reports were recorded in both eyes. P100 responses of all 46 eyes were analyzed with Fishers Exact. Cut off value for P100 wave latency was 103ms.

There were 24 eyes with clinical ON and rest did not. Of the 24 eyes with clinical ON, 20 (83%) had P100 latency delay. Of the 22 eyes with no clinical features of ON, 20 (90%) had P100 latency delay. There were only 2 clinically normal eyes, without P100 latency delay. There was no significant difference of occurrence of P100 wave latency delay in eyes with clinical ON and eyes without clinically apparent ON. Mean P100 response latencies of right and left eyes were 111ms and 108ms respectively. In conclusion, majority of the eyes in this sample of MS patients show P100 latency delay. Interestingly, majority of clinically normal eyes had P100 latency delay indicating the presence of subclinical demyelination.

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