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ORIGINAL TITLE	Neurophysiological evaluation of cervical spondylotic myelopathy and radiculopathy
DEGREE	M.Phil.
YEAR	2006
INSTITUTE	University of Peradeniya
LOCATION	UP(MED)
MAIN HEADING	SPINAL DISEASES
ABSTRACT	Introduction: Cervical spondylotic myelopathy (CSM) and radiculopa!hy are relatively common neurological disorders of the cervical spine. The two main modalities of investigations available to evaluate these patients are radiology (neuroimaging) and neurophysiology. The role of neurophysiological techniques in the evaluation of these patients is not clearly established.Objectives: The aim of this study was to study the changes of neurophysiological paramters in patients with CSM and radiculopathy, with a view of identifying the role of each neurophysiological investigation in the evaluation of these patients. The main objectives were 1. To compare the needle EMG findings with parameters of median nerve somatosensory evoked potentials (SEPs) and magnetically evoked motor evoked potentials (MEPs) of upper limbs in patients with clinical features of cervical radiculopathy. 2. To compare the parameters of MEPs of abductor digiti minimi muscle in patients with clinical features of CSM with a control group.3. To correlate clinical and MRI features with MEP and posterior tibial SEP parameters in patients with CSM with regard to the presence of spinal cord compression and localization of the rostral-most level of compression. Methodology This was a cross-sectional observational study. The test group comprised patients with clinical features of spondylotic cervical radiculopathy or myelopathy. A control group comprising healthy volunteers was employed to generate normative data for the neurophysiological investigations. In the first study 35 patients with clinical features of cervical radiculopathy were studied using needle EMG, median nerve SEPs and MEPs of upper limb muscles. In the second study, the test group comprised 21 patients with clinical features of cervical myelopathy. The MEPs of ADM muscles were compared with the findings of an age and height matched control group (n=17). In the third study 33 patients with clinical features of cervical myelopathy were studied using upper and lower limb MEPs posterior tibial SEPs and magnetic resonance imaging (MRI). Results: In the first study, when needle EMG was kept as the proxy gold standard for the, diagnosis of cervical radiculopathy, the sensitivity and specificity. of upper limb MEPs were 85 percent and 87.5 percent respectivly. The sensitivity and specificity of median nerve SEPs were 44 percent and 87.5 percent respectively. In the second study, when the parameters of MEPs of ADM muscles were compared with the control group, the total motor conduction time and the

central motor conduction time were prolonged in the myelopathy group whereas the duration of the MEPs was shorter in the myelopathy group. All the differences were statistically very highly significant (P