PERIPHERAL NEUROPATHY AND IMBALANCE: A STUDY USING COMPUTERIZED STATIC AND DYNAMIC POSTUROGRAPHY

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Introduction: Peripheral neuropathy (PN) is known to impact senorimotor functions and may lead to imbalance. This study was done using computerized static and dynamic posturography (CDP) to evaluate imbalance in patients with PN.
Methods: A retrospective study of 53 consecutive patients with PN was done. Nerve conduction and electromyography studies were done using Caldwell (R). PN was diagnosed according to AANEM criteria and guidelines. CDP was done using FallTrak (R). Patients performed normal stability - eyes open (NS/EO), normal stability- eyes closed (NS/EC), perturbed stability - eyes open (PS/EO), and perturbed stability - eyes closed (PS/EC) for 30 seconds each. Findings were classified as normal or abnormal based on age-matched normative data.
Results: The ages ranged from 37 to 81 years. There were 28 (52.8%) males and 25 (47.2%) females. Of the total 53 patients, 49 (92.5%) exhibited abnormalities on CDP testing. NS-EO was abnormal in 29 (54.7%), NS-EC was abnormal in 39 (73.6%); both NS-EO and NS-EC were abnormal in 23 (43.4%); PS-EO was abnormal in 20 (37.7%) and PS-EC was abnormal in 20 (37.7%). Both PS-EO and PS-EC were abnormal in 11 (20.8%). Both PS and NS were abnormal in 26 (49.1%). NS was normal in 8 (15.1%) and PS was normal in 23 (43.4%). Both NS and PS were normal in 4 (7.5%) patients.
Conclusions: Most patients with peripheral neuropathy show evidence of imbalance, when tested using computerized static and dynamic posturography. The imbalance appears to affect normal stability more than perturbed stability.