(S70) MUSCULAR AND GAIT ABNORMALITIES IN PATIENTS WITH A FIRST CLINICALLY DEMYELINATING EPISODE SUGGESTIVE OF MULTIPLE SCLEROSIS
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Background: Muscular and gait abnormalities are common complaints among patients with multiple sclerosis (MS). Objectives: The aim of this study was to characterize the extent of and the associations between spatiotemporal gait parameters, isometric strength, and fatigue of major lower-limb muscles in patients with a first clinically demyelinating event suggestive of MS. Methods: Fifty-two patients with clinically isolated syndrome (CIS; 36 female, 16 male) with a mean (SE) age of 33.8 (0.2) years, mean (SE) disease duration of 54 (6.2) days, and mean (SE) Expanded Disability Status Scale (EDSS) score of 1.7 (0.2) participated in the study. The tested muscle groups were the knee flexors and extensors and ankle plantarflexors and dorsiflexors. For each muscle, the group peak isometric torque and fatigue index were collected. A number of spatiotemporal parameters were also evaluated. Twenty-eight age- and gender-matched healthy subjects served as a control group. Results: Motor fatigue was greater in CIS patients. Pooled over all movements, fatigue increased by approximately 40% compared with healthy subjects (P < .01). The gait parameters of double support and base of support were elevated in the CIS group. Conclusions: These data provide evidence of a reduction in lower-limb motor performance following a first clinically demyelinating event. Motor deficits related to altered cortical activity and diffuse axonal dysfunction appear to occur very early in the disease process. Identification of lower-limb muscle abnormalities in the early stage of MS is important in order to establish proper intervention programs.

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