INTRODUCTION

Gait disturbances are one of the most common and disabling signs in patients with multiple sclerosis (MS). Examining the lower extremity intersegmental coordination, as a higher order property of the human movement system, during walking could explore valuable information about changes in neuromuscular control of gait in patients with MS.

AIM

The aim of this study was to compare the intersegmental coordination of the lower extremities during walking between patients with MS and healthy controls.

METHODS

Three-dimensional coordinate data of the lower extremities were collected from 39 patients with MS and 37 healthy controls (Table 1) while involved walking at their preferred walking speed. Mean absolute relative phase (MARP) and deviation phase (DP) were used to examine the foot-shank and shank-thigh coordination pattern and variability in stance and swing phases of the gait cycle.

RESULTS

For the foot-shank coordination pattern, MARP values were significantly larger in patients with MS compared to healthy controls in stance and swing phases of the gait cycle (p < 0.05, respectively). For the shank-thigh coordination, variability patients with MS showed significantly higher DP values compared to healthy controls in stance and swing phases of the gait cycle (p < 0.05). Similar results were found for the foot-shank coordination variability (p < 0.05 and p > 0.05, respectively) (Table 2).

CONCLUSIONS

The results suggest that MS patients could benefit from alternative strategies to improve the gait pattern, with a focus on rehabilitation interventions aimed at improving the gait pattern in patients with MS.

BIBLIOGRAPHY


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