139

RESPONSIVENESS OF MSMSS IN PROGRESSIVE MULTIPLE SCLEROSIS

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Background The search for treatments of progressive multiple sclerosis (PMS) necessitates meaningful markers of disease progression for clinical trials.

Aim We investigated the responsiveness of the MS Muscle Strength scale (MSMSS), a recently developed physician-based instrument, to determine its value as outcome measure in PMS.

Methods 54 pwPMS (SPMS=45/PPMS=9) were examined using the MSMSS and again >12 months. Group-level and individual-level indices of change were calculated using Rasch-derived estimates. Change in EDSS was used as external criterion of disability progression.

Results Between examinations, the sample lost strength (mean change in Rasch-derived estimate -0.88 logits; SD 1.08) and became more disabled (mean increase in EDSS 0.20 points; SD 0.56). Group-level indices of change were greater for the MSMSS than the EDSS (ES 0.59 vs 0.17; SRM 0.81 vs 0.36). Paired t-tests were significant for both MSMSS ($p<0.001$) and EDSS ($p=0.013$). Guyatt's responsiveness index for the MSMSS was moderate (0.73). Individual-level loss of strength reached statistical significance in 46% of the group.

Conclusions The MSMSS was more sensitive to changes occurring within this sample than the EDSS. This finding supports use of the MSMSS as marker for disease severity in clinical trials and epidemiological studies in PMS.