Abstract Preview - Step 3/4
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Topic: 18. Progressive MS
Title: Fatigue Predicts Conversion to Secondary Progressive Disease Phenotype in Relapsing-Remitting Multiple Sclerosis Patients
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Text: Fatigue, defined as overwhelming tiredness, lack of energy or exhaustion, affects 65-97% patients with multiple sclerosis (MS) and is considered the most severe symptom by 15-40% MS patients. Fatigue is reported more frequently in progressive than in relapsing-remitting (RR) patients. It is unclear whether fatigue is a consequence of disease progression or rather a predictive trait of conversion to a secondary progressive (SP) course. In this study we investigated the predictive value of fatigue towards conversion from the RR to the SP phase of disease. Study subjects were retrospectively selected from a larger cohort of over 800 prospectively followed patients that are assessed yearly with standardized clinical evaluation, magnetic resonance imaging (MRI) and quality of life measures, within the CLIMB (Comprehensive Longitudinal Investigations in MS at the Brigham and Women's Hospital) study. We identified 37 patients who had at least 4 years of follow-up, and converted from RR to SP disease phenotype within this period. The Modified Fatigue Impact Scale (MFIS) was available for 29 out of the 37 patients during the RR phase of their disease. We selected a comparison group by matching each patient to one that did not convert to SPMS within the follow-up period, and was matched for age, gender, ethnicity and disease duration (DD). No match was found for 2/29 patients. Male/Female ratio was 18/36. Time-points at least 1 year before SP diagnosis were assessed (mean±SD=1.9±1.2 years). Comparing 27 converters (C) to 27 matched non-converters (NC) mean±SD age was 48.7±10.9 vs 48.3±9.9, and DD was 11.4±7.4 vs 11.0±6.5. Total MFIS scores were significantly higher in C vs NC (41.9±14.7 vs 26.8±17.1; p=0.003). Expanded Disability Status Scale (EDSS) scores were also significantly higher in C (2.7±0.7 vs 1.3±1.1; p< 0.0001). Although we found an association between MFIS and Center for Epidemiologic Studies Depression Scale (CES-D) scores (rho=0.63, p< 0.0001), CES-D scores were not significantly different between C and NC. The difference in total MFIS scores between the groups remained significant after adjusting for EDSS and CES-D scores (p=0.02). MFIS scores were also associated with MRI-derived measures of T2 lesion volume (T2LV) (rho=0.34, p=0.02), while neither T2LV nor global brain atrophy showed significant differences between C and NC. Our findings raise the possibility that fatigue is an independent predictor of conversion to SP phenotype in RR MS patients.

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