Multiple Sclerosis

CHARACTERISTICS OF MULTIPLE SCLEROSIS PATIENTS BY PHENOTYPE: A RETROSPECTIVE, CROSS-SECTIONAL STUDY OF THE DANISH MULTIPLE SCLEROSIS REGISTRY

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Background: Multiple sclerosis (MS) is categorized into different phenotypes based on its clinical course. While existing disease-modifying therapies (DMT) are approved for relapsing-remitting MS (RRMS), active secondary progressive MS (aSPMS), and/or primary progressive MS (PPMS), no DMT are approved for patients with SPMS who no longer experience relapses (non-relapsing [nrSPMS]). Understanding how treatment patterns, epidemiology, and patient characteristics vary across MS phenotypes may help characterize the unmet clinical need and disease burden.

Methods: This retrospective analysis of the Danish MS Registry identified MS patients (≥18y) based on phenotype (PPMS, RRMS, aSPMS, nrSPMS) at date of extraction (Jul-26-2021; "index"). Patient demographics were extracted alongside disability (Expanded Disability Status Scale [EDSS]) scores. Data are presented mean±SD.

Results: The analyzed cohort (n=14,636 MS patients) included: RRMS, n=10,099[69%]; PPMS, n=1,729[11.8%]; aSPMS, n=117[0.8%]; nrSPMS, n=2,691[18.4%]. The majority of each MS phenotype were female (57.6%-70.7%). Age at index was 64.8±10.5y (PPMS), 62.2±9.9y (nrSPMS), 55.1±8.9y (aSPMS), and 48.4±11.8y (RRMS). Disease duration at index ranged from 26.6±10.6y (nrSPMS) to 14.1±9.2y (RRMS). The majority of aSPMS (74.4%) and RRMS (73.1%) were receiving DMT at index vs. 26.3% of nrSPMS and 8.4% of PPMS patients. EDSS scores were highest for aSPMS (5.6±1.5), nrSPMS (5.6±1.9), and PPMS (5.1±2.2) and lowest for RRMS (2.3±1.6) patients.

Conclusions: Among MS patients identified in this large cohort, 18% had nrSPMS. Characteristics varied by phenotype, with nrSPMS and PPMS patients being older, and with fewer receiving DMT despite higher disability burden, vs. RRMS patients. This highlights an unmet clinical need among progressive MS patients.