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ABSTRACT:

Background and objectives:

Early MS-related brain changes lead to irreversible damage, highlighting the need for prompt diagnosis and treatment. Differences in age of MS onset and diagnosis between different racial and ethnic groups have been demonstrated but are poorly understood. Our study aims to elucidate demographic variations in MS onset age, time to diagnosis, and associated clinical factors.

Methods:

To examine these factors, we analyzed charts of patients seen by an MS-trained clinical provider over a 16 month period with an MS ICD10 code. Demographic and clinical data were collected and analyzed to assess differences in MS onset and time to diagnosis.

Results:

Our findings show that male patients were 2.1 years older at symptom onset and diagnosis compared to female patients. PPMS patients were older at onset and diagnosis by 8.5 and 9.9 years, respectively compared to RRMS patients with PPMS diagnosis taking 1.37 years longer. Patients with vision loss as their initial symptom were more likely to be younger at the time of symptom onset than patients presenting with mixed, motor, or sensory symptoms by 3.32, 5.18, and 2.14 years, respectively and at age of diagnosis 3.22, 4.90, and 1.73 years, respectively. There were no significant differences in age of onset, diagnosis, or onset-diagnosis interval of MS according to CSF profile, between non-White vs. White, and between Hispanic vs. non-Hispanic groups.

Discussion:

This study confirms previous findings that PPMS patients are diagnosed approximately ten years later than RRMS patients, aligning with existing MS epidemiological studies. While some studies have indicated demographic differences in MS by race and ethnicity regarding age of symptom onset and diagnosis, our study did not find any such differences, including in onset-to-diagnosis interval. These findings suggest no significant delays in the diagnosis of MS based on racial or ethnic demographics. Overall, this study suggests that pwMS with initial motor, sensory, or mixed symptoms are older at symptom onset and diagnosis. Additionally, males are older at symptom onset and diagnosis compared to females.