(S33) COMPUTERIZED TESTING TO SCREEN FOR COGNITIVE IMPAIRMENT IN MULTIPLE SCLEROSIS

K.R. Edwards,1,2 W.A. Goodman,1 J.A. Wilken,3,4 R. Kane,7 T.A. Fratto,1 C. Sullivan3,4

1MS Center of Northeastern New York, Latham, NY; 2Harvard Medical School, Boston, MA; 3Washington Neuropsychology Research Group, Fairfax, VA; 4Department of Neurology, Georgetown University Medical Center, Washington, DC

Background: Cognitive changes affect the lives of multiple sclerosis (MS) patients, and cognition is an important outcome variable when assessing treatment and disease progression. Objectives: To further validate the use of a brief computerized battery (the ANAM: automated neuropsychological assessment metrics) to measure impairment in MS patients. Methods: Participants in this study were 60 patients diagnosed with MS and 30 healthy controls. All participants were administered a conventional test battery and the ANAM. One MS group consisted of 30 cognitively unimpaired relapsing-remitting MS (RRMS) patients, and the other MS group consisted of 30 cognitively impaired RRMS patients. Results: MS patients had a mean (SD) age of 45.38 (9.2) years and a mean (SD) education level of 14.2 (2.7) years. Controls had a mean age of 45.17 (9.9) years and a mean education level of 14.96 (2.1) years (not significant). Data analysis assessed the degree to which ANAM test performance classified participants as cognitively impaired (CI) or not cognitively impaired (NCI) based on their performance of a longer conventional battery. Performance on the ANAM was calibrated using z scores computed from the means and SDs of the healthy controls. ANAM throughput scores were used in this analysis. The z scores were used in a logistic regression to assess the degree to which impairment classification was concordant between the ANAM and the conventional test battery. Eight tests from the ANAM battery produced an overall rate of agreement of 87.4% (82.8% for CI; 89.7% for NCI) compared with conventional test battery–based classification for all participants. Restricting the analysis to just patients produced an overall classification rate of 82.8% (86.2% for CI; 79.3% for NCI). Similar classification rates were achieved using one and two tests from the ANAM battery. Conclusions: The findings support the use of the ANAM for screening of CI in MS. The ANAM may be suitable for assessing CI in multicenter trials.

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