SS02.02 - Comparison of COVID-19 outcomes between racial groups in the COViMS registry

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Abstract

Background
Risk factors previously identified for worse outcomes with SARS-CoV-2 infections include older age, male sex and specific comorbid conditions. An increased risk for poorer COVID-19 outcomes in people with multiple sclerosis (MS) are similar to the general population, but less is known about outcomes in minority groups with MS.

Objectives
To evaluate differences in outcomes of SARS-CoV-2 infection in non-Hispanic White and Black persons with multiple sclerosis.

Methods
COViMS is a North American registry for health care providers to report persons with MS who are infected with SARS-CoV-2, the virus that causes COVID-19 (cases). Cases are reported after 7 days and when the outcome of infection is reasonably certain. MS and clinically isolated syndrome cases were categorized using the Center for Disease Control and Prevention races (non-Hispanic Whites, and Black). Comorbidities related to COVID-19 outcomes were collected. Clinical outcomes examined were mortality alone, mortality and/or admissions to the intensive care unit (ICU) and mortality, ICU admissions and/or hospitalization. Age-adjusted mortality rates as of August 3, 2020 and 95% confidence intervals (CI) were calculated. Multivariable logistic regression was used to assess adjusted differences between races using odds ratios (OR) and 95% CIs. Covariates included sex, age, smoking (current, past, never), MS clinical course (relapsing, progressive), disease duration, ambulation (fully ambulatory, walks with assistance, non-ambulatory), individual comorbidities (cardiovascular disease, cerebrovascular disease, chronic kidney disease, chronic lung disease, diabetes, hypertension, morbid obesity), and disease modifying therapy use (yes vs no).

Results
Of 734 patients reported, 421 (57.4%) Whites, and 194 (26.5%) Black patients were reported. Black cases were more likely to be younger (p=0.002), never smokers (p=0.002), have shorter MS duration (p<0.001), a relapsing MS course (p=0.03) and have comorbidities (p<0.001) compared to Whites. A higher proportion of Black patients had hypertension (40.2% vs 19.5%, p<0.001), and morbid obesity (17.0% vs 9.5%, p=0.007). Mortality rates increased with age and were not statistically different between Whites and Blacks (p=0.156). Black race was associated with increased odds of mortality and/or ICU admission (OR 3.8 [95%CI: 1.60, 8.96], p=0.002) and mortality, ICU admission and/or hospitalization (OR 2.0 [95%CI: 1.14, 3.54], p=0.016) after adjustment for covariates.
Conclusions

Within the COViMS registry, Black MS patients were younger and more likely to have comorbidities than White MS patients. Black MS patients had an increased risk for poorer outcomes compared to Whites even after adjusting for comorbidities at the time of COVID-19.