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# Cerebral Small Vessel Disease among US Minority Survivors of Intracerebral Hemorrhage

**Priyanka Senthil[1,3]*, Axana Rodriguez-Torres[2,3], Sandro Marini[3,4], Marco Pasi[3,4], Patryk Kubiszewski[3], Christina Kourkoulis[3], Zora DiPucchio[3,4], Kristin Schwab[3,4], M. EdipGurol[3,4], Steven M. Greenberg[3,4], Anand Viswanathan[3,4], Jonathan Rosand[3,4], Christopher D. Anderson[3,4] and Alessandro Biffi[3,4]**

[1]University of Nevada, USA
[2]Universityof California, USA
[3]Center for Genomic Medicine, Massachusetts General Hospital, USA
[4]Department of Neurology, Massachusetts General Hospital and Harvard Medical School, USA

**Introduction:** Black and Hispanic survivors of Intracerebral Hemorrhage (ICH) are at higher risk of recurrent intracranial bleeding when compared to their white counterparts. While established differences in hypertension severity after ICH play a role, they do not fully account for this health disparity. MRI-based markers of chronic Cerebral Small Vessel Disease (CSVD) are consistently associated with increased risk of recurrent ICH. We therefore sought to investigate whether differences in CSVD subtype and/or severity exist among self-reported race/ethnicity groups.

**Methods:** We utilized data from the MGH-ICH study and the ERICH-L study. We collected baseline patient information and MRI-based CSVD markers, in the form of cerebral microbleeds(CMBs). We conducted univariable and multivariable analyses for presence and burden of CMBs, differentiating on the basis of two primary CSVD subtypes: Cerebral Amyloid Angiopathy (CAA) and Arteriolo-Sclerosis (AS).

**Results:** We analyzed data for a total of 2192 ICH survivors (MGH-ICH study: 991 and ERICH-L: 1201). Of these, 1245 self-identified as white, 460 as black, 392 as Hispanic and 67 as other race/ethnicity. We found that minority ICH survivors were more likely to have CMBs on MRI scan at time of ICH compared to white participants (54% vs. 41%, $p < 0.001$). Minority ICH survivors had higher burden of AS-associated CMBs (median: 1, Inter-Quartile Range [IQR] 1-2 vs. median 0, IQR 0-1, $p = 0.016$). Burden of CAA-associated CMBs did not differ between white and minority participants (median: 0, IQR 0-2 vs. median 0, IQR 0-1, $p = 0.12$).

**Conclusion:** Minority ICH survivors presented with greater CSVD burden on MRI scan at time of stroke, especially as it pertains to the AS-subtype. Given the known association between AS and hypertension, our findings may reflect disparities in primary stroke prevention long pre-dating ICH. Future studies will be required to clarify the impact of our findings on ICH recurrence risk.