Abstract: P760
Clinical profile of African-American and non-Hispanic caucasian patients with Takotsubo cardiomyopathy syndrome in a large urban hospital in the United States of America

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Background: Takotsubo (stress) cardiomyopathy is an acute reversible heart failure syndrome initially described in Japanese patients, but now well characterized in Caucasians patients in Europe or of European descent. An initial observation has suggested a lower incidence of Takotsubo in non-Caucasian subjects, particularly in the African-American (AA) population in the United States of America. The purpose of this study was to assess whether epidemiologic and clinical differences were present in Takotsubo in a large urban hospital in Virginia, USA.

Methods: We used an informatics-based system to query electronic health records (TriNetX, Cambridge, MA, USA) to search for cases of Takotsubo between 2010 and 2018 and a corresponding cohort of patients with non-ST segment elevation acute myocardial infarction (NSTEMI). We then performed a chart-level review of 160 cases and obtained additional clinical information including symptoms, risk factors, co-morbidities, and in-hospital outcomes. This retrospective study was approved by the Institutional Review Board of our institution.

Results: We identified 260 cases of Takotsubo and 6,270 of NSTEMI in the same time period (1:24, 4.2%). Being AA was associated with an odds ratio of Takotsubo versus NSTEMI of 0.38 [0.29–0.50] (P=0.0001). With further evaluation of patients with Takotsubo (N=160), AA (N=44, 27.2%) and Non-Hispanic Caucasian (C) (N=110, 67.9%) had no differences in age and sex. AA patients with Takotsubo however were more likely than C patients to be affected by type II diabetes mellitus (38.6% versus 14.5%, P=0.002, OR 3.70 [1.65–8.28]), have history of drug abuse (27.3% versus 9.1%, P=0.009, OR 3.75 [1.48–9.49]) and of cocaine use in particular (9.1% versus 0.9%, P=0.024, OR 11.0 [1.19–101.4]). The pattern of wall motion abnormality was not different between the 2 groups. AA patients presented with a lower ratio of brain natriuretic peptide (BNP) to troponin I (27.3% versus 9.1%, P=0.009, OR 3.75 [1.48–9.49]) and of cocaine use in particular (9.1% versus 0.9%, P=0.024, OR 11.0 [1.19–101.4]). The pattern of wall motion abnormality was not different between the 2 groups. AA patients presented with a lower ratio of brain natriuretic peptide (BNP) to troponin I (41.9 [12.7–258] pg./ml versus 281 [42–890] pg/ml, P=0.022). There was no significant difference of in-hospital mortality between the AA and C groups (9.1% versus 25%, respectively, OR 0.40 [0.13–1.24], P=0.11).

Conclusions: The incidence and clinical characteristics of Takotsubo (stress) cardiomyopathy appear to be different between African-American and Non-Hispanic Caucasian patients. African-American patients are more likely to have diabetes and illicit drug usage, but have a lower BNP/troponin I ratio. Both AA and Non-Hispanic Caucasian patients have similar in-hospital mortality.