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### Do Racial Differences Exist in Blood Pressure and Vascular Stiffness in Otherwise Healthy Young Men?

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Cardiovascular disease (CVD) is the leading cause of morbidity and mortality in the United States but is most pervasive among non-Hispanic Black/African American individuals. Central blood pressure (BP) and vascular stiffness are relatively novel functional indicators of vascular health and function and are highly indicative of CVD risk, but few studies have explored whether racial differences exist in these parameters, and if heart rate variability (HRV), a non-invasive index of cardiac autonomic nervous activity, is explanatory. **PURPOSE:** The purpose of this study was to determine possible racial differences in central and peripheral BP and vascular stiffness between young healthy African American (AA) and Caucasian American (CA) men, and whether if such differences might be explained in part, by HRV. **METHODS:** 17 college age males (AA: n=8, age=19 ± 1yrs. vs. CA: n=9, age=21 ± 2yrs.) were assessed for peripheral systolic (SBP) and diastolic (DBP) blood pressure using an automated oscillometric sphygmomanometer following 10 mins supine quiet rest. Central systolic (cSys) and diastolic (cDia) pressures were derived from peripheral waveforms using a generalized transfer function. Pulse wave analysis determined augmentation index (AIx) normalized to 75 beats/min (AIx@75), and pulse wave velocity (PWV). Time-domain indices of HRV, root mean square of successive differences (RMSSD) and standard deviation of n-n intervals (SDNN) were obtained via an HR monitor. **RESULTS:** AA men and CA men presented no significant disparities in vascular function marked by systolic (AA:129 ± 14 vs. CA:120 ± 8 mmHg, p=0.14, d=0.76), diastolic (AA:73 ± 6 vs. CA:74 ± 6 mmHg, p=0.79, d=-0.13), cSys (AA:118 ± 13 vs. CA 111 ± 10 mmHg p=0.23, d=0.61) and cDia (AA:74 ± 7 vs. CA:75 ± 6 mmHg, p=0.67, d=-0.21) BP, AIx@75 (AA:13 ± 10 vs. CA: 4 ± 12%, p=0.14, d=0.77), and PWV (AA:5.28 ± 0.37 vs. CA:5.18 ± 0.43m/s, p=0.61, d=0.26). RMSSD (AA: 78.91 ± 48.53 vs. CA: 66.68 ± 53.16, p=0.749, d=0.158) and SDNN (AA: 76.3 ± 35.56 vs. 67.98 ± 37.81, p=0.728, d=0.172) were not different between AA and CA. **CONCLUSION:** Central and peripheral BP, vascular stiffness, and HRV were not different between young healthy AA and CA men, though moderate effect sizes in central and peripheral systolic blood pressure were noted.