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| Supplemental table 1. Comparison of the prevalence of each BP category between patients with and without LVH. |
| BP category | All | LVH group(n=88) | Non-LVH group(n=334) | p-value |
|  Elevated BP | 54 (12.8) | 12 (13.6) | 42 (12.6) | 0.939 |
|  Stage 1 HTN | 135 (32.0) | 27 (30.7) | 108 (32.3) |
|  Stage 2 HTN | 233 (55.2) | 49 (55.7) | 184 (55.1) |
| BP; blood pressure, HTN; hypertension, LVH; left ventricle hypertrophy |

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| Supplemental table 2. Comparison of echocardiographic parameters between African American patients and Caucasian patients with stratification based on BMI. |
|   | AA patients | Caucasian patients | p value |
| **Normal BMI** **(n=98)** |  |  |  |
|  Number of patients | 67 | 31 |  |
|  LV mass | 120 (89-144) | 120 (87-137) | 0.80 |
|  LV mass index | 31.2 (25.8-36.8) | 29.3 (27.8-32.3) | 0.617 |
|  **LVRWT** | **0.37 (0.33-0.43)** | **0.29 (0.25-0.34)** | **<0.001** |
|  LV geometry  |  |  |  |
|  Normal | 47 (70.1) | 27 (87.1) | 0.280 |
|  Concentric re-modeling | 17 (25.4) | 3 (9.7) |
|  Eccentric hypertrophy | 1 (1.5) | 0 (0.0) |
|  Concentric hypertrophy | 2 (3.0) | 1 (3.2) |  |
| **Overweight or obesity (n=319)** |  |  |  |
|  Number of patients | 218 | 101 |  |
|  **LV mass** | **157 (119-195)** | **135 (103-166)** | **0.001** |
|  LV mass index | 37.1 (31.2-44.9) | 36.1 (32.1-40.9) | 0.243 |
|  **LVRWT** | **0.37 (0.31-0.44)** | **0.33 (0.28-0.41)** | **0.006** |
|  LV geometry  |  |  |  |
|  Normal | 120 (55.0) | 62 (61.4) | 0.266 |
|  Concentric re-modeling | 37 (17.0) | 17 (16.8) |
|  Eccentric hypertrophy | 32 (14.7) | 16 (15.8) |
|  Concentric hypertrophy | 29 (13.3) | 6 (5.9)  |
| AA; African American, BMI; body mass index, LV; left ventricular, LVRWT; left ventricle relative wall thickness |

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| Supplemental table 3. Comparison of echocardiographic parameters between African American patients and Caucasian patients with stratification based on gender and BMI. |
|   | **Male** |  | **Female** |
|   | **AA** | **Caucasian** | **p value** |  | **AA** | **Caucasian** | **p value** |
| **Entire cohort (n=422)** |  |  |  |  |  |  |  |
|  Number of patients | 203 | 94 |  |  | 86 | 39 |  |
|  LV mass | **156 (117-194)** | **139 (109-168)** | **0.020** |  | **122 (96-152)** | **105 (72-129)** | **0.022** |
|  LV mass index | 35.6 (28.9-43.4) | 34.7 (29.4-39.0) | 0.375 |  | 35.1 (29.0-41.7) | 33.9 (29.1-40.4) | 0.602 |
|  LVRWT | **0.37 (0.31-0.44)** | **0.33 (0.27-0.41)** | **0.004** |  | **0.37 (0.30-0.44)** | **0.29 (0.26-0.36)** | **<0.001** |
| **Normal BMI (n=98)** |  |  |  |  |  |  |  |
|  Number of patients | 53 | 25 |  |  | 14 | 6 |  |
|  LV mass | 124 (97-153) | 126 (93-143) | 0.902 |  | 91 (51-123) | 82 (47-106) | 0.602 |
|  LV mass index | 31.7 (26.7-36.1) | 29.6 (28.1-34.4) | 0.712 |  | 25.7 (20.0-37.0) | 27.0 (24.4-30.1) | 1.000 |
|  LVRWT | **0.38 (0.33-0.44)** | **0.29 (0.25-0.36)** | **0.002** |  | **0.34 (0.30-0.43)** | **0.26 (0.24-0.28)** | **0.003** |
| **Overweight or obesity** **(n=319)** |  |  |  |  |  |  |  |
|  Number of patients | 147 | 69 |  |  | 71 | 32 |  |
|  LV mass | **1734 (129-202)** | **151 (118-189)** | **0.008** |  | **127 (107-161)** | **116 (72-143)** | **0.020** |
|  LV mass index | 38.5 (31.5-45.9) | 36.1 (32.5-40.9) | 0.244 |  | 36.0 (30.1-43.4) | 36.1 (30.0-41.5) | 0.743 |
|  LVRWT | 0.37 (0.31-0.44) | 0.35 (0.29-0.43) | 0.140 |  | **0.37 (0.30-0.44)** | **0.32 (0.27-0.38)** | **0.004** |
| AA; African American, BMI; body mass index, LV; left ventricular, LVRWT; left ventricle relative wall thickness |

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| Supplemental table 4. Logistic regression analysis to predict LVH (LV mass index > 95th percentile (left)) and LVRWT > 0.42 (right) |
| LVMI > 95th percentile | Univariate regression |   | LVRWT > 0.42 | Univariate regression |
| Odds ratio | 95% CI | p value |  | Odds ratio | 95% CI | p value |
| LL | UL |   | LL | UL |
| Male gender | 0.675 | 0.411 | 1.109 | 0.121 |  | Male gender | 0.987 | 0.617 | 1.579 | 0.956 |
| African American | 1.388 | 0.819 | 2.352 | 0.223 |  | **African American** | **1.690** | **1.034** | **2.765** | **0.036** |
| Age at diagnosis of HTN | 1.070 | 0.988 | 1.160 | 0.096 |  | **Age at diagnosis of HTN** | **1.100** | **1.020** | **1.180** | **0.012** |
| **BMI percentile** | **1.040** | **1.017** | **1.064** | **<0.001** |  | BMI percentile | 1.000 | 0.992 | 1.011 | 0.757 |
| **Obesity or overweight** | **8.265** | **2.946** | **23.18** | **<0.001** |  | Obesity or overweight | 1.262 | 0.745 | 2.138 | 0.387 |
| Systolic BP | 0.998 | 0.982 | 1.015 | 0.825 |  | Systolic BP | 1.012 | 0.996 | 1.028 | 0.134 |
| Diastolic BP | 0.992 | 0.971 | 1.012 | 0.422 |  | Diastolic BP | 1.006 | 0.987 | 1.024 | 0.553 |
| Heart rate | 1.002 | 0.988 | 1.016 | 0.769 |  | Heart rate | 0.995 | 0.982 | 1.009 | 0.474 |
| BMI; body mass index, HTN; hypertension |