



P31 Aldosterone and Cardiovascular Function in a Young Cohort: The African-PREDICT Study

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ABSTRACT

Objectives: High levels of aldosterone may contribute to early development of hypertension. The aim was to evaluate the influence of high serum aldosterone on cardiovascular function in healthy black and white South Africans.

Methods: This study was embedded in the African-PREDICT study, included 233 black and 217 white participants aged 20–30 years. Cardiovascular and biochemical variables were measured with known methods.

Results: The ABPM night DBP is significantly higher in the black high aldosterone participants (58 vs 60 mmHg). The ABPM day SBP is significantly lower (125 vs 122 mmHg) in the white participants. The SV in the white participants is significantly lower (95 vs 90 ml) compared to the low aldosterone group. The vascular compliance is also significantly lower (2.4 vs 2.5 ml/mmHg) in the white participants. The angiotensin II are significantly higher in the black (47.6 vs 87.5 pmol/l) and white (85.6 vs 145.2 pmol/l) high aldosterone groups. NT-proBNP (36.4 vs 24.8 pmol/l) is significantly lower in the black high aldosterone group. Partial correlations in the black high aldosterone group revealed positive associations with vascular compliance ($r = 0.22$; $p = 0.004$), angiotensin II ($r = 0.49$; $p < 0.001$) as well as with CRP ($r = 0.16$; $p = 0.031$) and in the whites with angiotensin II ($r = 0.27$; $p < 0.001$) and CRP ($r = 0.15$; $p = 0.041$). Regression analysis revealed that the angiotensin II contributes to aldosterone in the blacks and ROS only in whites.

Conclusion: The lower NT-proBNP in the blacks has a stabilizing role against volume overload while in the white participants ROS may contribute to early vascular changes.

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