P106: RELATIONSHIP BETWEEN CENTRAL PULSE PRESSURE AND URINARY SODIUM EXCRETION IN A POPULATION-BASED STUDY IN SALVADOR, BRAZIL, PRELIMINARY RESULTS

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Background and Objectives: It is known that physical activity is inversely associated with arterial stiffness in healthy adults. Data regarding the effect of physical activity on PPA is limited. Such data is of importance especially in South Africa, where alarming rates of physical inactivity have been reported. The aim of this study was to determine the relationship between pulse pressure amplification (PPA) and physical activity in a young, healthy black and white South African cohort.

Methods: The sub-study was embedded in the African Prospective study on the Early Detection and Identification of Cardiovascular disease and Hypertension (African-PREDICT) and included 591 white and 604 black participants aged 20–30 years. Systolic, diastolic and central blood pressures were determined with the Sphygmocor apparatus. Biochemical variables were analysed with known methods.

Results: The SBP (124 vs. 121 mmHg, p < 0.001), DBP (76 vs. 71 mmHg, p < 0.001) and central SBP (110 vs. 105 mmHg, p < 0.001) were significant higher in the black compared to white participants. No differences were encountered in c-fPWV and PPA. The physical activity levels did not differ but the total energy expenditure was significant lower in the black compared to whites (220.5 vs. 237.6 KCal, p < 0.001). After multiple regression analysis only in black participants the PPA showed an independent and significant negative association with age (β = −0.282, p < 0.001) and a positive association with height (β = 0.247, p < 0.001). In whites the PPA only associated positively with sex (β = −0.180, p = 0.032).

Conclusion: No association was encountered between arterial stiffness (PPA) and physical activity markers.

References

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Introduction: Central Pressure (PC) has shown to be more reliable in cardiovascular (CV) mortality (1); Salt intake and excretion seems to lead to an increase in this pulsatile component of the arterial flow (2, 3). C entral Pulse Pressure (PPc) data is very few.

Methods: A population-based cross-sectional study representative of a poor and mixed-race neighborhood of Salvador-B A, Brazil, distributed in 12 census tracts according to the Brazilian Institute of Geography and Statistics. The overall sample is randomized in adults from the assigned area, from December 2016 to May 2018 comprise 110 people. Individual and household records are filled out. The central pressure, measured in the radial artery, obtained through aplanation tonometry, using the Sphygmocor® (XCEL, Atcor Medical, Sydney, Australia (2), with operation index ≥58%. PP c measured by systolic central pressure minus diastolic central pressure. 24-hour urine samples were collected. Urinary sodium (US) was measured by the selective ion electrode, ADVIA1800® (SiemensHealthcare Japan/Canada). The committee for research on human subjects of the FCT approved the protocol (No1827621). Median, interquartile range, Spearman’s linear correlation coefficient between PPC and sodium stratified by sex, using STATA v.12 software for data base management and statistical analysis. The level of statistical significance was set at 5%.

Results: 71.8% female, mean age 49.7 ± 16.9. Median excretion rate of sodium was, in male,133.2 ± 82 mEq/l (in general 126.4 ± 84). In male was a significance negative correlation (r = −0.43; p = 0.01) between PPC and US excretion.

Conclusion: There was a correlation between the values of PPC and UR in men (Rg.1). These results need future best understanding.

**References**