



AC083

Adult Cardiology & Clinical Cardiovascular Medicine • Poster Presentation

CORRELATION OF PULSE PRESSURE WITH DIASTOLIC DYSFUNCTION AND CARDIAC REMODELLING IN NIGERIAN HYPERTENSIVES

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Background: Pulse pressure (PP) reflects large-artery stiffness and is an established independent cardiovascular risk marker in Western populations. In Nigerian hypertensives, PP may be a clinically accessible marker of target-organ damage.

Methods: We analysed 200 Nigerian adults with essential hypertension from at Lagos University Teaching Hospital. Pulse pressure was calculated from blood pressure (BP) measured at the time of echocardiography. Participants were stratified by median PP (≥ 50 mmHg vs < 50 mmHg). Associations between PP and LV mass index (LVMI), LAVI, DD grade and DD prevalence were assessed by Spearman correlation. Multivariable logistic regression adjusted for age and sex.

Results: Mean PP in hypertensive cases was 56.3 ± 17.1 mmHg. Elevated PP (≥ 50 mmHg) was present in 144 of 200 cases (72%). DD was significantly more prevalent in the high PP group (86.1% vs 64.3%, $p = 0.001$). PP correlated positively with DD grade (Spearman $r = 0.17$, $p = 0.014$), LAVI ($r = 0.16$, $p = 0.024$), and LVMI ($r = 0.14$, $p = 0.048$). Higher PP was independently associated with DD after adjustment for age and sex (adjusted OR 1.04 per mmHg, 95% CI 1.01–1.07, $p = 0.009$).

Conclusion: Pulse pressure is independently associated with DD and cardiac structural remodelling in Nigerian hypertensives, and its elevation is highly prevalent at the point of clinical echocardiographic assessment. As a parameter derived without additional cost or technology, PP may serve as a practical risk-stratification signal for identifying Nigerian hypertensive patients at highest risk of DD who warrant echocardiographic evaluation and optimal BP management.

Keywords: Hypertension, pulse pressure, diastolic dysfunction, left atrial volume index, LV mass index, risk stratification