**ARterial stiffness is associated with left ventricular systolic and diastolic function in never-treated hypertensives**

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Authors: Dimitrios Terentes-Printzios, Charalambos Vlachopoulos, Athanasios Bratsas, Konstantinos Aznaouridis, Nikolaos Alexopoulos, Katerina Baou, Nikolaos Ioakeimidis, Alkaterini Siama, Panagiota Pietri, Christodoulos Stefanadis, 1st Cardiology Department, Athens Medical School, Hippokration Hospital, Athens, Greece

**Background:** Hypertension is associated with increased arterial stiffness. Arterial stiffness is an independent predictor of cardiovascular risk. We investigated whether arterial stiffness is associated with left ventricular systolic and diastolic function in never-treated hypertensives.

**Methods:** We enrolled 200 consecutive essential hypertensives (mean age 53.5±11.2 years) with preserved left ventricular ejection fraction (LVEF>50%). Arterial stiffness was determined with carotid-femoral pulse wave velocity (cfPWV). In addition, echocardiography was performed. LVEF and left ventricular mass index (LVMI) were calculated using the Teichholz and Devereux method, respectively.

**Results:** cfPWV was inversely correlated with LVEF (R=-0.34, p<0.001) and the ratio of peak early (E) to peak atrial (A) Doppler mitral valve flow velocity (E/A) (R=-0.31, p<0.001). (Figure) cfPWV showed a positive correlation with LVMI (R=0.32, p<0.001), left atrial diameter (R=0.39, p<0.001) and A (R=0.27, p<0.001). (Figure) In multivariable regression analysis, all the aforementioned associations were independent of age, sex and diastolic blood pressure. (p<0.05, p<0.05, p<0.005, p<0.05 and p<0.05, respectively)

**Conclusions:** In never-treated hypertensives arterial stiffness is consistently and independently associated with systolic and diastolic function. This finding provides further insights into the role of arterial stiffness in left ventricular function.