

## Correlation Between Diastolic Function and Lower GLS in Hypertensive Patients

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**Abstract :** Introduction: Preserved LVEF heart failure is an important cause of mortality and morbidity in hypertensive patients. A strong correlation between impaired diastolic function and longitudinal systolic dysfunction. could have several explanations, first, the diastole is an energy dependent process, especially during its first phase, it also includes active systolic components during the phase of iso volumetric relaxation, in addition, the impairment of the intrinsic myocytic function is part of hypertensive pathology as evidenced by recent studies. METHODS AND MATERIALS: This work consists of performing in a series of 333 hypertensive patients (aged 25 to 75 years) a complete echocardiographic study, including LVEF by Simpson biplane method, the calculation of the indexed left ventricular mass, the analysis of the diastolic function, and finally, the study of the longitudinal deformation of the LV by the technique of speckletracking (calculation of the GLS). Patients with secondary hypertension, leaky or stenosing valve disease, arrhythmia, and a history of coronary insufficiency were excluded from this study. RESULTS: Of the 333 hypertensive patients, 225 patients (67.5%) had impaired diastolic function, of which 60 patients (18%) had high filling pressures. 49.39% had echocardiographic HVG, Almost all of these patients (60 patients) had low GLS. There is a statistically very significant relationship between lower GLS and increased left ventricular filling pressures in hypertensive patients. These results suggest that increased filling pressures are closely associated with atrioventricular interaction in patients with hypertension, with a strong correlation with impairment of longitudinal systolic function and diastolic function CONCLUSION: Overall, a linear relationship is established between increased left ventricular mass, diastolic dysfunction, and longitudinal LV systolic dysfunction

**Keywords :** hypertension, diastolic function, left ventricle, heart failure

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