**ECHOCARDIOGRAPHIC PREDICTORS OF HEART FAILURE IN HYPERTENSIVE CARDIOMYOPATHY**

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*Objective*: To determine the echocardiographic (Echo) predictors of heart failure (HF) in hypertensive cardiomyopathy (HTN-CM).

*Background*: In hypertensive cardiomyopathy (HTN-CM), Echocardiographic (Echo) predictors of heart failure (HF) are not well studied. We sought to evaluate the atrial, ventricular, valvular and vascular (aortic) morphologic and functional predictors of HF in HTN-CM.

*Methods*: From Echo laboratory, we identified 280 consecutive cases of HTN-CM and 62 controls with a history of hypertension and no cardiomyopathy (HTN-No CM). We examined them for a history of HF, clinical, EKG and Echo variables including but not limited to left ventricular (LV) mass, LV geometry, LV EF, diastolic function and mitral annular systolic velocity (S’), a surrogate of myocardial systolic function. HTN-CM with HF was compared with the group without HF and controls.

*Results:* In HTN-CM, 66 %, 28 % and 6 % had concentric hypertrophy, concentric remodeling and eccentric hypertrophy respectively. Females were 57%; Mean age was 56 ± 14 years. 39% had HF among which 82% had HF with preserved EF (EF >50%). On bivariate analysis, a significant difference was noted in 2 out of 14 Echo variables (LV diastolic dysfunction and S’) and 4 clinical parameters (CAD, renal dysfunction, tobacco and methamphetamine abuse). Of note, no difference was observed in LV phenotype, mass and EF between HTN-CM with and without HF groups. On multivariate analysis, LV advanced (moderate to severe grade) diastolic dysfunction (OR: 2.36; CI: 1.13-4.93; p=0.02) and impaired S’ (≤6cm/sec, OR: 1.79; CI: 1.30-3.30; p=0.01) were the only independent Echo predictors of HF (figure).

*Conclusion*: LV functional (advanced diastolic dysfunction and impaired S’) but not the morphologic parameters (CM phenotype, LV mass) are the independent Echo predictors of HF in HTN-CM.

