

Predictors Of Left Ventricular Dysfunction After First Attack Of Myocardial Infarction

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Introduction: Patients who survived myocardial infarction (MI) may remain at risk for developing HF. Doppler echocardiography and Tissue Doppler imaging (TDI) has been accepted as a non-invasive alternative to assess LV diastolic function. N-terminal proB-type natriuretic peptide (BNP) measurements augment the prognostic information of clinical risk scores.

Aim of the work: In this study, we are trying to find out the closely related and sensitive predictors of the development of LV dysfunction in patients presenting with first attack of STEMI at the end of follow-up period.

Patients and methods: We randomly selected 40 patients with acute STEMI, subjected to primary PCI and followed-up for 6 months. The patients were divided a two groups according to preservation or deterioration of LV function.

Results: Of 40 stable post-MI patients, 14 (35%) developed LV dysfunction during 6-months follow-up. The most important predictors were higher NT-pro BNP, cutoff value of 1110 pg/ml, with 78% sensitivity & 89% specificity in predicting LV dysfunction, and TDI parameters assessing LV diastolic function (e'-wave velocity & E/e' ratio). The baseline cutoff value of E/e' ratio at the lateral mitral annulus >8.0 showed high sensitivity & specificity, 93% & 89%, respectively, also, the baseline cutoff value of E/e' ratio at the septal mitral annulus >10.0 had a sensitivity of 79% & specificity of 88% (AUC = 0.89).

Conclusion: This study showed that among many clinical and laboratory predictors of LV dysfunction post MI high NT-pro BNP and selected TDI parameters (e'-wave & E/e') carried significantly higher sensitivity and specificity and can be used to guide patient risk stratification.

Key Words: myocardial infarction, tissue Doppler, BNP, primary PCI.