Abstract: P5552

Prognostic significance of left ventricular end diastolic pressure using E/E' in patients with hypertrophic cardiomyopathy

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Background: Impaired left ventricular (LV) diastolic function is a prominent feature of hypertrophic cardiomyopathy (HCM). It has been shown that a new tissue Doppler index, E/E', including the ratio between early diastolic transmitral and mitral annular velocity has a good accuracy to predict left ventricular filling pressure. The aim of this study: We investigated the value of E/E’ to predict all cause mortality in patients with HCM.

Methods: A total of 243 patients with HCM had E/E’ measured by tissue Doppler imaging in conjunction with conventional echocardiography and clinical evaluation, inclusive of cardiopulmonary exercise evaluation and Holter monitoring.

Results: During the follow-up period (3.2 ± 1.2 years), cardiac death occurred in 17 patients (7%). The optimal cut-off value for the initial E/(E’×S’) to predict cardiac death was 2.83 (76% sensitivity, 85% specificity). At discharge, 252 patients (74.3%) presented E/(E’×S’) = 2.83 (group I) and 87 (25.7%) presented E/(E’×S’) > 2.83 (group II), respectively. Cardiac death was significantly higher in group II than in group I (38 deaths, 43.7% vs. 13 deaths, 5.15%, p < 0.001). By stepwise multivariate logistic regression analysis, including variables that affected outcome in univariate analysis, E/E’ and LVOTO were the best independent predictors of cardiac death (B = .070, 95% confidence interval: 1.002 - 1.148, p = 0.004). Patients with E/(E’×S’) > 2.83 at discharge and its worsening after one month presented the worst prognosis (all p < 0.05). Conclusions: In patients with hypertrophic cardiomyopathy, the E/E’ ratio is a powerful predictor of cardiac death, particularly if it is associated with LVOT obstruction.