

Abstract citation ID: suac121.484

235 COMPARISON OF THE PROGNOSTIC RELEVANCE OF DIFFERENT ECHOCARDIOGRAPHIC PARAMETERS OF RIGHT VENTRICULAR SYSTOLIC FUNCTION IN CHRONIC HEART FAILURE

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Background: Right ventricular (RV) systolic function is an important predictor of prognosis in heart failure (HF). Several RV echocardiographic functional parameters have been described as sensitive prognostic markers.

Aim: To compare the predictive value of different RV systolic echocardiographic parameters in patients with HF.

Methods: One hundred and sixty patients with stable HF and left ventricular ejection fraction (LV EF) <45% were assessed for the following: (1) tricuspid annular plane systolic excursion (TAPSE), (2) RV fractional area (RVFA), (3) tissue Doppler-derived RV peak systolic velocity (PSVtdi), (4) RV free wall longitudinal 2D-strain (RVFWS); and (5) 3D-RVEF. The primary endpoint was death and/or HF-hospitalization.

Results: During a mean follow-up of 16.9±10 months, 35 patients reached the primary endpoint. Each of the RV echocardiographic parameters was significantly associated with outcome at univariable analysis. After adjusting for age, eGFR, logNTproBNP, LVEF, restrictive filling pattern, pulmonary artery systolic pressure, and RV end-diastolic volume, by Lasso Cox multivariable analysis, RVFWS (HR 1.09, 95%CI: 1.02-1.18, P=0.0093) and 3D-RVEF (HR 0.95, 95%CI: 0.91-0.99, P=0.0076) remained the only parameters independently associated with outcome with a cut-off of -18.6% and 43.6% respectively, without any difference in C-statistic between the two models (0.826 versus 0.812, p=0.3255).

Conclusions: RVFWS and 3D-RVEF are strong independent predictors of outcome in HF and appear to be superior to other standard RV systolic echocardiographic parameters.