The validity of the model because of the homogeneity of patients and variables' evaluation.

Aim of the Study: To validate the Heart Failure Survival Score (HFSS) in patients referred for a clinical evaluation to a HT center different from the one where the score was developed.

Patients and Methods: We prospectively analyzed all patients referred to our heart failure center between March 1996 and February 1997 and we included in the study 107 patients who had all the variables needed to calculate the score: VO2 max, rest HR, mean BP at rest, EF%, serum Na, IHD/DCM, QRS width 0.12 sec at a 12 lead standard ECG. At entry the mean age was 51.4 ± 8 years; 86 (80.4%) were male and 69 (64.5%) had dilated cardiomyopathy. The mean VO2 was 16 ± 4.7 ml/kg/min; left ventricular ejection fraction was 26 ± 9%; mean blood pressure was 99 ± 13 mmHg; resting heart rate was 80.7 ± 13.9 bpm; serum Na was 140 ± 3 mEq/l. HFSS was 90.3 ± 0.97 (range 6.42-11.43) which classified patients into three strata: 2 patients (1.8%) were classified as at high risk, 18 (16.8%) at medium risk and 87 (81.3%) at low risk. All patients had a clinical follow-up at 1 year. Event-free survival (urgent transplant in inotrope-dependent patients or pre-transplant death) was determined by the Kaplan-Meier method and compared by the log rank test. At the end of follow-up 7 events (6.5%) were recorded: 3 (2.8%) deaths and 4 (3.7%) inotrope-dependent transplant. Event-free survival at 1 year was 68 ± 14% for the combined medium and high risk strata vs 96 ± 2% for the low risk stratum (p = 0.005).

Conclusions: The HFSS is a reliable and generalizable model to predict one year mortality and transplantation in patients referred for evaluation in a HT center different from the one where the score was developed. Event-free survival for patients in the high and medium risk strata is poor, and these patients should be listed for HT. HT listing can be safely deferred for low risk stratum patients.

P100/10407 ANP & BNP are potent markers for left ventricular dimensions, mass and function in patients with chronic heart failure

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The main aim of the study was to evaluate neurohormonal plasma levels as markers for left ventricular dimensions, muscle mass and function as measured by magnetic resonance imaging (MRI) in patients with chronic heart failure.

Methods: In a substudy to the Metoprolol CR/XL Randomised Intervention Trial in Heart Failure (MERIT-HF), 48 patients with symptomatic heart failure in New York Heart Association functional classes II-IV (II: 51%, III: 46%, IV: 3%), left ventricular ejection fraction (LVEF) <35% (mean LVEF 21% (by echocardiography) [95% confidence interval (CI) 27-34]) and mean blood pressure <90 mm Hg (between 40 and 110 years (mean age 66 years (95% CI 63-60)) were examined with MRI prior to randomisation assessing left ventricular dimensions (left ventricular end-diastolic (LVEDVI) and end-systolic (LVESVI) volume indices), muscle mass (left ventricular mass index (LVmass)) and function (left ventricular ejection fraction (LVEF)). Prior to the MRI examination, plasma levels of epinephrine (EPI), norepinephrine (NEP), atrial natriuretic peptide (ANP), brain natriuretic peptide (BNP), plasma renin activity (PRA), aldosterone (ALDO) and arginine-vasopressin (AVP) were measured.

Results: Mean LVEDVI, LVESVI and LVmass exceeded normal values (154 ± 66 vs 66 ± 12 ml/m² [mean ± standard deviation], P < 0.001; 111 ± 62 vs 21 ± 10 ml/m², P < 0.001; 178 ± 51 vs 87 ± 12 g/m², P < 0.001) and mean LVEF was below normal value (31 ± 12 vs 67 ± 5%, P < 0.001). Elevated plasma levels of ANP and BNP were powerful markers for high values of LVEDVI (ANP: r = 0.74, P = 4 x 10^{-7}; BNP: r = 0.61, P = 1 x 10^{-5}) and LVESVI (ANP: r = 0.73, P = 1 x 10^{-7}; BNP: r = 0.65, P = 2 x 10^{−5}) as well as for an increased LVmass (ANP: r = 0.64, P = 2 x 10^{−5}; BNP: r = 0.60, P = 2 x 10^{−7}). A low LVEF was associated with elevated plasma levels of ANP (r = -0.35, P = 0.02); BNP (r = -0.48, P = 0.0009) and PRA (r = -0.37, P = 0.01). Plasma levels of EPI, NEPI, ALDO and AVP were not associated with any hemodynamic variables.

Conclusions: The present study is the first to demonstrate that ANP and BNP are valid markers for left ventricular volumes and myocardial mass in patients with chronic heart failure and holds the potential for introduction of these surrogate measurements into clinical practice.