METHODS: Clinical and biochemical findings

Although echo-Doppler and biomarkers are the most common examinations performed worldwide in heart failure (HF), they are rarely considered in risk scores. Hence, a multiparametric HF risk score was purposely designed to include the separate contribution of prognostic markers that are currently evaluated in clinical practice in an ambulatory setting.

METHODS: Echo-Doppler

Transesophageal 2D echo-Doppler examination was performed in 638 consecutive outpatients. Left ventricular (LV) volumes and ejection fraction (LVEF) were calculated using the modified Simpson’s rule. Right ventricular systolic function was evaluated using the tricuspid annular plane systolic excursion (TAPSE). Mitral regurgitation (MR) severity was graded according to the vena contracta method. Left atrial (LA) size and pulmonary artery systolic pressure (PASP) were estimated according to standard methods.

RESULTS

Development of the multiparametric HF risk score

The following univariable predictors were entered into the multivariable Cox model: furosemide daily dose >25 mg, inability to tolerate ACE inhibitors, inability to tolerate beta-blockers, age >75 years, NYHA class 2, eGFR>60 ml/min, NT-proBNP plasma levels above the median, tricuspid plane systolic excursion (TAPSE)≤14 mm, LV end-diastolic volume index (LVEDVI)=96 ml/m², severe mitral regurgitation (MR) and LVEF <30%. The scores of prognostic factors were obtained with the respective odds ratio divided by the lower odd ratio.

 RESULTS

Survival for patients of the testing cohort

CONCLUSIONS

We conclude that this multiparametric HF score is able to predict mortality in chronic systolic HF. By referring to a HF risk score derived from a number of echo-Doppler parameters that are not always accessible to general practitioners, this approach may give effective information above and beyond LVEF and could overcome the jargon of echocardiographers and facilitate communication among physicians.