Abstract: P791

Long-term prognostic value of pulmonary-systemic pressure ratio in patients admitted for acute decompensated heart failure with reduced or preserved left ventricular ejection fraction

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Topic(s):
Acute Heart Failure – Epidemiology, Prognosis, Outcome

Citation:
Backgrounds: Concomitant presence of pulmonary hypertension in heart failure is associated with increased adverse events and may be related to interventricular uncoupling and impaired cardiac efficiency. It has recently been shown that an increased mean pulmonary artery pressure to mean systemic arterial pressure ratio (MPS ratio), a marker of interventricular coupling and efficiency, is associated with worse clinical outcomes in patients with advanced heart failure. However, there is little information available on the long-term prognostic value of MPS ratio in patients with acute decompensated heart failure (ADHF), relating to reduced or preserved left ventricular ejection fraction (HFrEF or HFpEF).

Methods and Results: We studied 240 patients admitted for ADHF, who underwent right heart catheterization and were discharged with survival (HFrEF(LVEF<40%); n=110, HFpEF(LVEF>40%);n=130). MPS ratio was obtained at the admission. During a mean follow-up period of 5.2±4.4 yrs, 59 patients had cardiovascular death (CVD). In both groups with HFrEF and HFpEF, MPS ratio was significantly greater in patients with than without CVD (HFrEF; 0.453±0.101 vs 0.382±0.116, p=0.0035, HFpEF; 0.374±0.118 vs 0.323±0.083, p=0.0091). At multivariate Cox regression analysis, MPS ratio was significantly associated with CVD, independently of eGFR and serum sodium level in HFrEF and HFpEF groups. Patients with high MPS ratio (>0.386 in HFrEF and >0.415 in HFpEF determined by ROC curve analysis) had a significantly increased risk of CVD than those with low MPS ratio in both groups. Conclusions: MPS ratio could provide the long-term prognostic information in patients admitted for ADHF, regardless of reduced or preserved LVEF.
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Conclusions: MPS ratio could provide the long-term prognostic information in patients admitted for ADHF, regardless of reduced or preserved LVEF.