Abstract: **P1649**

**Prognostic significance of serum cholinesterase in patients with acute decompensated heart failure with preserved ejection fraction: insights from PURSUIT-HFpEF registry**

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**On behalf:** The OCVC Investigators

**Topic(s):**
Acute Heart Failure: Biomarkers

**Citation:**
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**Background:** Comorbidities strongly influence the prognosis in heart failure with preserved ejection fraction (HFpEF). Malnutrition is one of the most important comorbidities among heart failure patients. Serum cholinesterase (CHE), one of the markers of malnutrition, was reported to be a prognostic factor in patients with chronic heart failure. In addition, we previously reported prognostic significance of CHE from a single center registry data of acute decompensated heart failure (ADHF). The aim of this study is to conduct external validation of the prognostic role of CHE using multi-center HFpEF registry.

**Methods and results:** Patients data were extracted from The Prospective mUlticenteR obServational stUdy of patIenTs with Heart Failure with Preserved Ejection Fraction (PURSUIT HFpEF) study. PURSUIT-HFpEF study is a prospective multicenter observational study in which collaborating hospitals in Osaka recorded clinical, echocardiographic, and outcome data of patients with ADHF and preserved ejection fraction. Between June 2016 and January 2018, 381 patients were enrolled and we excluded patients without sufficient laboratory data and in-hospital death. Finally, we analyzed 204 patients with survival discharge. Laboratory data including CHE and echocardiography were obtained just before discharge. The endpoint of this study is the composite of all-cause death and worsening heart failure re-admission (cardiac event). During a follow up period of 0.92±0.37 years, 49 patients had cardiac event. CHE was significantly lower in patients with than without cardiac event (183±67 vs 223±71 U/L, p<0.0001). At multivariate Cox analysis, CHE (p=0.0020) was significantly associated with cardiac event, independently of NT-pro BNP after adjustment of age, sex, eGFR and hemoglobin. ROC curve analysis showed that AUC of CHE for the prediction of cardiac event was 0.706 (95% CI 0.638–0.768). Kaplan-Meier analysis showed that patients with low CHE (<211U/L defined by median) had a significantly greater risk of cardiac event (35% vs 13% p=0.0002).

**Conclusion:** Serum cholinesterase level is the useful prognostic marker for the prediction of cardiac event in patients with ADHF with preserved ejection fraction.
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Conclusion: Serum cholinesterase level is the useful prognostic marker for the prediction of cardiac event in patients with ADHF with preserved ejection fraction.

Figure 1