Prognostic impact of improvement in quality of life after discharge in patients with ADHF with preserved ejection fraction regardless of the course of HF -PURSUIT-HFpEF registry

T. Kondo1, T. Watanabe1, T. Yamada1, M. Seo1, M. Yano2, T. Hayashi3, A. Nakagawa4, Y. Nakagawa5, S. Tamaki6, Y. Yasumura6, Y. Sotomi7, S. Hikoso7, D. Nakatani7, M. Fukunami1, Y. Sakata7

1Osaka General Medical Center, Osaka, Japan
2Osaka Rosai Hospital, Osaka, Japan
3Osaka Police Hospital, Osaka, Japan
4Amagasaki Chuo Hospital, Amagasaki, Japan
5Kawanishi City Hospital, Kawanishi, Japan
6Rinku General Medical Center, Izumisano, Japan
7Osaka University Graduate School of Medicine, Suita, Japan

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Background: Lower quality of life (QOL) is associated with poor clinical outcome in patients with heart failure (HF). However, there is not fully clarified whether the changes in QOL could have prognostic value in patients with HF with preserved ejection fraction (HFpEF).

Purpose: The purpose of this study is to investigate the prognostic impact of changes in QOL in patients with HFpEF in relation to the changes in condition of heart failure.

Methods: We prospectively studied 435 patients with acute decompensated heart failure with preserved ejection fraction (ADHF-HFpEF) without the poor outcome within 1 year after the discharge. The patients' QOL was evaluated at discharge and 1 year after the discharge using EuroQol 5 dimensions 5-level (EQ-5D-5L) and the difference in the EQ-5D-5L index at these two time points was used to assess the change in QOL. The primary outcome was all-cause death.

Results: The median EQ-5D-5L index were 0.753 (0.562-0.875) at discharge and 0.784 (0.646-0.895) at 1 year after the discharge. During a mean follow-up period of 1.6±1.2 years, primary outcome occurred in 92 patients. Patients with improved QOL (defined as equal to or greater than the EQ-5D-5L index at discharge) were significantly younger, had lower volume load on echocardiography and higher level of hemoglobin and serum sodium than those without improved QOL. Both the improved QOL and the improvement of HF (defined as more than -0.035 in the difference in Log NTproBNP value within 1 year after discharge by ROC analysis: AUC 0.570 [0.506-0.635]) were associated with primary outcome at univariate Cox proportional hazard analysis and the improved QOL was significantly independently associated with primary outcome after multivariable adjustment. Kaplan-Meier analysis revealed that patients with improved QOL had significantly lower risk for primary outcome than those without improved QOL not only in the whole study patients (14% vs 27%, p=0.0007) but also both in the group with improving HF (11% vs 22% p=0.0129) and in those with worsening HF (17% vs 31% p=0.0468).

Conclusion(s): The improvement in QOL had the prognostic impact in patients with ADHF-HFpEF regardless of the course of heart failure.