Abstract: **P3520**

**Admission hyperglycemia is a predictor of mortality of acute heart failure : comparison between patients with and without diabetes mellitus**

**Authors:**
J Y Cho, KH Kim, SE Lee, HY Lee, JO Choi, ES Jeon, MS Kim, JJ Kim, KK Hwang, SC Chae, SM Kang, DJ Choi, BS Yoo, MC Cho, BH Oh, Chonnam National University Hospital, Cardiology - Gwangju - Korea (Republic of), Seoul National University Hospital - Seoul - Korea (Republic of), Samsung Medical Center - Seoul - Korea (Republic of), Chungbuk National University Hospital - Cheongju - Korea (Republic of), 1Chonnam National University Hospital, Cardiology - Gwangju - Korea (Republic of), 2Seoul National University Hospital - Seoul - Korea (Republic of), 3Samsung Medical Center - Seoul - Korea (Republic of), 4Chungbuk National University Hospital - Cheongju - Korea (Republic of),

**On behalf:** KorAHF

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

**Citation:**
Background: Regardless of diabetes mellitus (DM), admission hyperglycemia is not uncommon in patients with acute heart failure (AHF). Although DM is a well-known predictor of mortality in AHF, the impacts of admission hyperglycemia on clinical outcomes in non-DM patients with AHF have been poorly studied. The aim of this study, therefore, was to compare the impact of admission hyperglycemia on long-term clinical outcomes in AHF patients with or without DM.

Methods: Among 5,625 AHF patients enrolled in a nationwide registry, a total of 5,541 patients were enrolled and divided into 2 groups; DM group (n=2,125, 70.4±11.4 years) vs. non-DM group (n=3,416, 67.3±16.0 years). Each group were further divided into 2 groups according to the presence of admission hyperglycemia (admission serum glucose level >200mg/dl); admission hyperglycemia (n=248) and no hyperglycemia (n=3,168) in non-DM; admission hyperglycemia (n=799) and no hyperglycemia (n=1,326) in DM. All-cause death and hospitalization due to HF (HHF) during 1-year follow-up were compared.

Results: Death was developed in 1,220 patients (22.2%) including 269 inhospital deaths (4.9%) during 1-year of follow-up. Death rate were significantly higher in DM than in non-DM group (24.8% vs 20.5%, p <0.001), however there was no difference in inhospital death (5.1% vs 4.7%, p=0.534). Both inhospital death (7.6% vs. 4.2%, p <0.001) and 1-year death (26.2% vs. 21.3%, p=0.001) were more frequent in AHF patients with hyperglycemia. On Kaplan-Meier survival curve analysis, however, admission hyperglycemia was associated with significantly higher death (p<0.001 by log-rank test) and rehospitalization (p=0.006 by log-rank test) in non-DM group, but not in DM group. In non-DM group, admission hyperglycemia was an independent predictor of 1-year mortality (HR 1.46, 95% CI 1.10-1.93, p=0.009).

Conclusion: DM was a significant predictor of long-term mortality in patients with AHF. Admission hyperglycemia was associated with both higher inhospital and 1-year mortality. The present study also demonstrated that admission hyperglycemia is an independent predictor of mortality in non-DM patients with AHF, but not in DM patients. In addition to the presence of DM, admission hyperglycemia would be a useful marker in the risk stratification of AHF, especially in non-DM patients.