INTERLEUKIN-6 IS ASSOCIATED WITH, BUT DOES NOT INDEPENDENTLY PREDICT, MORTALITY IN ACUTE HEART FAILURE: AN ASCEND-HF SUBSTUDY

Poster Contributions
Poster Hall B1
Sunday, March 15, 2015, 3:45 p.m.-4:30 p.m.

Session Title: Imaging and Biomarkers in Heart Failure
Abstract Category: 14. Heart Failure and Cardiomyopathies: Clinical
Presentation Number: 1217-229

Authors: Antonio Perez, Justin Grodin, Adrian Hernandez, Javed Butler, Marco Metra, G. Michael Felker, Adriaan A. Voors, John McMurray, Paul W. Armstrong, Robert Califf, Randall Starling, Christopher O’Connor, Wai Hong Tang, Cleveland Clinic, Cleveland, OH, USA

Background: The inflammatory cytokine interleukin-6 (IL-6) has been previously associated with acute decompensated heart failure (ADHF). Prior observation has suggested that IL-6 may identify ADHF patients who respond better to nesiritide than nitroglycerin (Circ Heart Fail. 2011; 4:450-5.).

Methods: We analyzed the association between baseline IL-6 in ADHF and mortality at 30 and 180 days, using a cohort of 881 patients from the ASCEND-HF trial (nesiritide vs placebo). Plasma IL-6 (Singulex) values were measured at the time of hospitalization (baseline), 48-72 hours and 30 days.

Results: Univariable analysis showed that IL-6 was associated with mortality at 30 days (IL-6 at baseline: HR 3.2, 95% CI 1.2-8.8; 48-72 hours: HR 6.6, 95% CI 1.5-29) and 180 days (IL-6 at baseline: HR 1.7, 95% CI 1.1-2.8; 48-72 hours: 2.63, 95% CI 1.5-4.6; 30 days: HR 3.3, 95% CI 1.6-7.0). Change in IL-6 from baseline to 30 days was also associated with 180-day mortality (HR 2.2, 95% CI 1.1-4.6). However, multivariable analysis adjusting for age, log(BUN), sodium, baseline hypotension, and baseline dyspnea at rest showed that neither IL-6 nor change in IL-6 independently predicted mortality at 30 or 180 days (all p>0.05). Treatment with nesiritide vs placebo was found to have no significant effect on IL-6 levels at measured time points (Figure, all p>0.05).

Conclusion: While IL-6 is associated with mortality in ADHF, it does not independently predict mortality, contradicting previously published work in smaller cohorts.