CHANGE IN ST2 LEVEL: REFINING RISK STRATIFICATION IN THE DYSPNEA PATIENT

ACC Poster Contributions
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**Introduction:** ST2 is a powerful risk marker for death in patients with acute dyspnea. However, little is known with respect to the influence of change in ST2 levels after presentation and how this influences prognosis. To quantify the frequency of change and identify if there is a role for following ST2 levels we invited patients to follow-up after initial presentation.

**Methods:** From a cohort of 412 patients presenting to the emergency department with dyspnea, 163 subjects returned at 30 days and had ST2 and NT-proBNP measured at both time points. Outcomes included one-year all-cause mortality (n=16) and heart failure (HF) admissions (n=17).

**Results:** For those who returned, (age 56±14, 55% male, 72% Afro-American, 69% normal renal function, 36% diagnosed with acute HF, 52% with NYHA class III and 18% NYHA class IV symptoms), baseline ST2, median of 35.6 U/mL (IQ range 25.2-66.3) decreased to 27.7 U/mL (IQ 20.7-38.5). Similarly, NT-proBNP at presentation, median 238 pg/mL (IQ 34-1895) vs. follow-up 164 pg/mL (IQ 25-1046), also decreased (p<0.001 for change in ST2 and NT-proBNP). An ST2≥44 U/mL was identified as the cut-point to best stratify risk. Of 61 (37%) subjects with baseline ST2≥44 U/mL, 40 decreased to < 44 U/mL with a > 25% change. Figure shows unadjusted and adjusted (for NT-proBNP level, age, renal function and HF diagnosis) survival based on change in ST2 level.

**Conclusion:** ST2 levels decrease in the majority of patients after an acute presentation. Absence of a decrease in ST2 indicates a poor prognosis.