

CARDIAC FUNCTION AND HEART FAILURE

SMALL TROPONIN ELEVATIONS IN HEART FAILURE EXACERBATION PATIENTS ARE ASSOCIATED WITH INCREASED 90-DAY MORTALITY

ACC Oral Contributions
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Background: Patients with heart failure (HF) often have low grade troponin leak, which has been associated with increased mortality. However, troponin has not been widely used for prognostic evaluation of HF patients due to the minute troponin concentration in this population. Newer assays can detect troponin I in the ng/L range, making it possible to reliably measure serum troponin I levels in HF patients.

Methods: 144 patients with acute HF were included. Primary endpoints were all cause mortality and HF related readmission. Patients were followed for 90 days post discharge. Troponin levels were checked on admission, discharge and up to 4 consecutive days during treatment.

Results: Peak troponin <0.1ug/L in 69.4% of patients and <1.0ug/L in 91.6% of patients. The ROC curve for discharge troponin had an AUC of 0.653 SE 0.047. In multivariate analysis, troponin >23.25 ng/L was the only statistically significant parameter. Higher proportion of patients with troponin > 23.25 ng/L reached primary endpoint at 90 days (p<0.05). Patients reaching primary endpoint had higher average troponin and a trend of early increase in troponin whereas patients who did not reach primary endpoint had relatively stable troponin. (Figure 1)

Conclusions: This study has shown that even very small troponin elevations during a HF exacerbation can lead to increased 90 day mortality and HF related readmission. High risk patients not only have higher troponin levels, but also an initial increase in troponin during hospitalization.

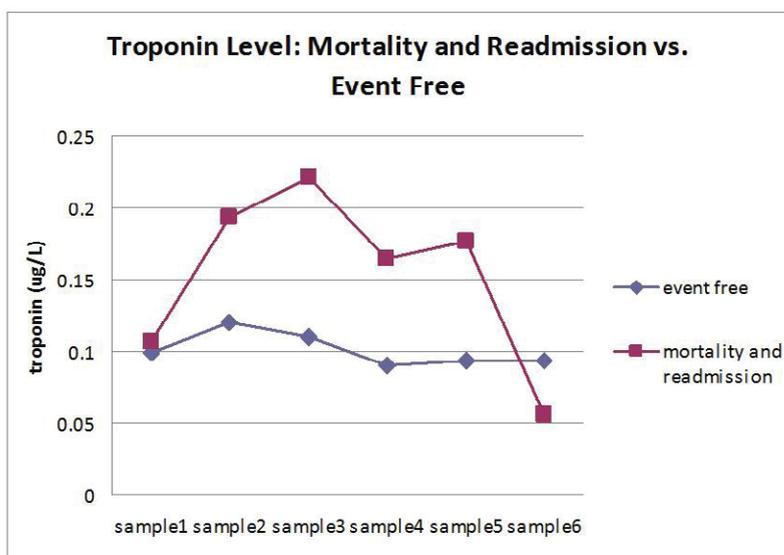


Figure 1: Average troponin levels of each of the six serial samples taken during hospitalization. Patients in the mortality and readmission group had an early increase in troponin and patients in the event free group had fairly stable troponin.