Abstract: P1092

Lack of prognostic effect of N-terminal pro-brain natriuretic peptide levels in acute heart failure and functional severe tricuspid regurgitation

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Background: In patients with acute heart failure (AHF), plasma levels of N-terminal pro-brain natriuretic peptide (NT-proBNP) have generally shown to be associated with higher risk of adverse clinical outcomes. However, its prognostic value in patients with predominant facts of right ventricular failure remains unclear. Functional tricuspid regurgitation (TR) has emerged as a powerful prognosticator and a potential therapeutic target in heart failure setting.

Purpose: In this work, we aimed to evaluate the association between NT-proBNP and long-term mortality across TR status in an unselected cohort of patients admitted with AHF.

Methods: We prospectively included a cohort of 2961 patients admitted with the diagnosis of AHF. TR severity was assessed during hospitalization using a multiparametric integrative approach, and classified as none, mild, moderate, and severe. We used multivariable Cox regression analysis to identify the association between severe TR grade and long-term all-cause mortality.

Results: At a mean follow-up of 3.35±3.20 years, 1821 (61.5%) patients died. The mean (SD) age was 73.9±11.1 years, 49% were women, 51.8% displayed left ventricular ejection fraction>50%, and the median (IQR) of NT-proBNP was 4823 pg/ml (2086-9183). The proportion of patients with severe TR was 10.1%. In the whole sample, NT-proBNP (per increase in 2000 pg/ml) was independent and significantly associated with higher risk of mortality (HR=1.06, 95% CI: 1.05-1.08, p<0.001). However, a differential prognostic effect was found across severe TR status (p-value for interaction=0.008). In those with no severe TR, NT-proBNP remained significantly associated with higher risk (HR=1.07, 95% CI:1.05-1.09, p<0.001). On the contrary, when severe TR was present, NT-proBNP was not longer associated with mortality (HR=1.02, CI 95%-0.98-1.05, p=0.284).

Conclusion: In patients with AHF and severe TR, NT-proBNP did not show to be related with the risk of mortality.