WHAT IS THE PROGNOSTIC ASSOCIATION OF AN ELEVATED BNP AMONG HEART FAILURE PATIENTS AT THE TIME OF IMPLANTABLE CARDIOVERTER DEFIBRILLATOR IMPLANTATION?

ACC Moderated Poster Contributions
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Background: Risk stratification for adverse outcomes among heart failure (HF) patients with implantable cardioverter defibrillators (ICD) is currently lacking. We sought to investigate the prognostic significance of an elevated brain-natruretic peptide (BNP) at the time of ICD implantation on the risk of ICD therapy for ventricular arrhythmias (VA) or decompensated HF (ADHF)

Methods: We identified 360 HF patients with an EF≤40% and a measurement of serum BNP at the time of ICD implant. Patients were grouped according to tertiles of BNP; BNP < 500 pg/dl (N=130, mean BNP 257 ± 146), BNP 500-1000 pg/dl (N=104, mean BNP 740 ± 151) and BNP >1000 pg/dl (N=126, mean BNP 2094 ± 1060). Multivariable Cox proportional analysis was used to calculate the adjusted hazard ratios (AHR) among each BNP group, as compared to patients with a BNP <500 on the incidence of all-cause mortality, ICD therapy for VA and ADHF

Results: Overall the mean age was 67 ± 12 years and EF of 21 ± 8%. Compared to patients with a BNP < 500, a BNP 500-1000 was not associated with an increased risk of death [AHR 1.4 (95% CI 0.7 - 2.4) p=0.3] or ADHF [AHR 0.9 (95% CI 0.4 - 1.9) p=0.8] whereas a BNP>1000 was associated with a 2-fold increased risk of death [AHR 2.2 (95% CI 1.3 - 3.6) p=0.003] and ADHF [AHR 2.1 (95% CI 1.1 - 4) p=0.02, figure A). An elevated BNP was not associated with an increased risk of ICD therapy for VA, figure B

Conclusion: An elevated BNP > 1000 identifies a vulnerable cohort of HF patients at risk of death and ADHF without an increased risk of ICD therapy