



EFFECT OF BODY MASS INDEX ON THE BENEFIT OF IMPLANTABLE CARDIOVERTER DEFIBRILLATOR IN PATIENTS WITH HEART FAILURE

ACC Poster Contributions

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Background: Implantable cardioverter defibrillator (ICD) is the standard to prevent sudden cardiac death in patients with heart failure (HF) and ejection fraction (EF) $\leq 35\%$. The relationship between obesity and HF is not clear; studies have reported reduced mortality rate in patients with increased body mass index (BMI). This link has not been established for patients who received an ICD.

Methods: Of patients who received ICD in our institution from January 2007 to June 2009, 1,342 patients had congestive HF with NYHA class II and III and EF $\leq 35\%$. Group A, BMI < 30 (819 patients), and Group B, BMI ≥ 30 (523 patients), were followed for a median of 503 days. We compared adverse reactions, cardiac events, hospital readmission, and mortality.

Results: Group A was older (69.9 ± 12.4 vs. 64 ± 12.2 years, $p < 0.001$) and had more males (76.6% vs. 71.3% $p = 0.032$). Group B had more diabetes mellitus (47% vs. 29.9% $p < 0.001$) and hypertension (81.8% vs. 73% $p < 0.001$) and less coronary artery disease (65.6% vs. 70.8% $p = 0.044$). Group A had longer hospital stay (1.74 ± 2.5 vs. 1.48 ± 1.8 days, $p < 0.001$), more post-implant acute myocardial infarction (2% vs. 0%, $p < 0.001$) and more post-implant arrhythmia (4.2% vs. 0%, $p < 0.001$). By Kaplan-Meier and multivariate analysis, Group B had a significantly higher survival rate post-implant than Group A (15.3% vs. 8.8%, $p < 0.001$).

Conclusions: Low BMI is a predictor of worse outcome in ICD recipients with heart failure, and is associated with a higher mortality rate and an increase in cardiac events.

