

 **CARDIAC ARRHYTHMIAS**

LEFT VENTRICULAR REVERSE REMODELING PREDICTS MORTALITY: RESULTS FROM THE REVERSE STUDY

ACC Oral Contributions

Ernest N. Morial Convention Center, Room 238
Monday, April 04, 2011, 10:45 a.m.-11:00 a.m.

Session Title: Device Prevention of Sudden Cardiac Death
Abstract Category: 28. Cardiac Pacing
Presentation Number: 909-3

Authors: *Michael Robert Gold, Claude Daubert, Martin St. John Sutton, Stefano Ghio, William T. Abraham, Cecilia Linde, Division of Cardiology, Medical University of South Carolina, Charleston, SC*

Background: Cardiac Resynchronization Therapy (CRT) improves functional status and reduces heart failure hospitalizations and death in selected populations. Improvement in cardiac structure (reverse remodeling) is a marker of CRT response, but the impact of reverse remodeling on long term mortality is not well described.

Methods: REVERSE included 610 NYHA Class I-II patients with QRS \geq 120 ms and LVEF \leq 40% who were randomly assigned to either CRT ON (n=419) or CRT OFF (n=191) and followed for up to 5 years. LV end-systolic volume index (LVESVi) was measured at baseline and at 6 months by a blinded core lab. In the CRT ON group, analysis was performed to determine if a decrease of \geq 15% in this prospectively powered reverse remodeling endpoint (LVESVi) predicts lower all cause mortality compared to those without significant improvement in LVESVi ($<$ 15%). Survival analysis was calculated from 6-month echo assessment to death using Kaplan-Meier methods.

Results: Of the 353 CRT ON subjects with echo data, 183 (52%) had an improvement in LVESVi. The hazard ratio comparing subjects whose 6-month LVESVi improved to those whose did not is 0.41 with a 95% confidence interval of 0.19-0.85, p $<$ 0.01 (Figure).

Figure 1: Mortality Rate from 6-Month Visit: 6-Month Improvement in LVESVi \geq 15% vs. $<$ 15%

Conclusion: In the REVERSE study reverse remodeling of a decrease of \geq 15% with CRT predicts improved long term survival in mild heart failure.

