IMPROVEMENT IN EJECTION FRACTION PREDICTS SURVIVAL FOLLOWING CARDIAC RESYNCHRONIZATION THERAPY IN PATIENTS WITH BOTH LEFT BUNDLE AND NON-LEFT BUNDLE BRANCH BLOCK MORPHOLOGIES

ACC Oral Contributions
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Background: The vast majority of patients included in studies looking at the effect of reverse ventricular remodeling on survival following cardiac resynchronization therapy (CRT) have had a left bundle branch block (LBBB). Whether reverse remodeling predicts improved long term survival in patients with a non-LBBB, a population with potentially greater co-morbidities, is unknown.

Methods: We collected clinical and echocardiographic data on a cohort of 895 patients who presented for the initiation of CRT at our institution between 10/29/2003 and 8/6/2007. For inclusion, patients had a valid US social security number, NYHA class II-IV heart failure, a QRS duration ≥ 120 ms, an LVEF≤40%, and both pre-CRT and follow up echocardiograms. Multivariate models were constructed looking at the effect of an absolute improvement in LVEF≥5% on all cause mortality in patients with a native or paced LBBB vs. a non-LBBB morphology (RBBB or NSIVCD).

Results: 457 patients met inclusion criteria, 341 with a LBBB and 116 with a non-LBBB. Over a mean follow up of 4.6±1.8 years, there were 162 deaths, 111 in patients in patients with a LBBB (32.6%) and 51 with a non-LBBB (43.2%). In separate multivariate models improvement in LVEF≥5% was associated with improved survival for patients with both LBBB (HR 0.51 (0.33-0.78, p=0.002) and non-LBBB (HR 0.36 (0.18-0.72, p=0.004).

Conclusions: Improvement in LVEF of ≥5% is associated with improved all-cause survival following CRT in patients with both LBBB and non-LBBB patterns.