The Impact of Improvement of Mitral Regurgitation on Long Term Clinical Outcomes in Patients Undergoing Cardiac Resynchronization Therapy.

ACC Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 9:30 a.m.-10:30 a.m.

Session Title: Cardiac Resynchronization Therapy
Abstract Category: Cardiac Pacing
Presentation Number: 1026-150

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Background: It is not well known whether improvement of mitral regurgitation (MR) after cardiac resynchronization therapy (CRT) affects long-term clinical outcomes.

Methods: We investigated 630 patients (pts) received CRT (age 69+/−11 years, NYHA class 2.9+/−0.6, LVEF 28+/−10%, LVEDD 62+/−9mm, pre QRS duration 150+/−38ms) and divided into two groups, 190 pts with moderate or severe MR and 440 pts with none or mild MR before CRT. Pts were subdivided into 2 groups by 6 month follow up echo data, with improve of MR or without improve of MR. Improvement of MR was defined as echocardiographic MR decreased at least 0.5 grade.

Results: After mean follow up 21+/−14 months, event free survival rates from death, heart failure hospitalization and combined death and heart failure hospitalization were all significantly higher in none or mild MR group (92% vs. 81% at 2 years, Log-rank p=0.0056, 74% vs. 65% at 2 years, Log-rank p=0.0154 and 72% vs. 62% at 2 years, Log-rank p=0.0127, respectively). However, even in moderate to severe MR group, pts with improve of MR at 6 month had significantly better clinical outcomes compared to pts without improvement (see figure).

Conclusion: Pts with moderate to severe MR had worse clinical outcomes compared to none to mild MR pts. However, even pts with moderate to severe MR, who had improvement of MR after 6-month CRT, had better long term clinical outcomes like pts with none or mild MR.