



## IMPACT OF CLINICAL AND ECHOCARDIOGRAPHIC RESPONSE TO CARDIAC RESYNCHRONIZATION THERAPY ON LONG-TERM SURVIVAL

ACC Poster Contributions

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Session Title: Predictors of Long Term Outcomes in CRT

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**Background.** Clinical or echocardiographic mid-term responses to cardiac resynchronization therapy (CRT) may have a difference influence on long-term prognosis of heart failure (HF) patients. The aim of the study was to establish which definition of CRT response, clinical or echocardiographic, best predicts long-term prognosis.

**Methods.** A total of 663 HF patients underwent a complete history and physical examination and transthoracic echocardiogram prior to CRT implantation and at 6 months follow-up. The clinical and echocardiographic responses to CRT were defined based on clinical improvement ( $\geq 1$  NYHA class) and LV reverse remodeling (reduction of LV end-systolic volume  $\geq 15\%$ ), respectively. All patients were prospectively followed-up for the occurrence of death.

**Results.** At 6 months follow-up, 510 (77%) patients showed clinical response to CRT and 412 (62%) patients showed echocardiographic response to CRT. During a mean follow-up of  $37 \pm 22$  months, 140 (21%) patients died. Clinical and echocardiographic CRT responses were both significantly related to all-cause mortality (Figure). However, on multivariable Cox regression analysis only echocardiographic response to CRT was independently associated with a superior survival (hazard ratio: 0.38; 95% CI, 0.27-0.50;  $p < 0.001$ ).

**Conclusions.** In a large population of CRT patients, the reduction of LV end-systolic volume at mid-term follow-up demonstrated to be a better predictor of long-term survival than improvement in clinical status

