

Can we Predict Early Deterioration after CRT from Patients' Baseline Characteristics?

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Background: Two thirds of pts treated by CRT will show clinical improvement. Few pts may deteriorate . The aim of this study was to analyze clinical and echocardiographic parameters as predictors of clinical or echo deterioration following CRT.

Methods: We reviewed our CRT database for pts with implanted CRT/D since 1998. Clinical deterioration was defined by a combined score of the change in NYHA class, QoL score and 6-minute walk (6MW) between baseline and follow up at one year. Each component was classified as improved (+1), unchanged (0), or worsened (-1). Deterioration was defined as a combined score of ≤ -1 or death or heart transplantation during follow-up. Echo deterioration was defined by a combined score (≤ -1) of absolute reduction in LVEF by $\geq 5\%$ and relative increase LVESV by $\geq 10\%$.

Results: A total of 509 pts were implanted with CRT/D during this period. 52 pts were excluded due to incomplete data. Of the 457 pts analyzed, 67 (14.7%) clinically deteriorated. Pts with ischemic CMP had a trend toward higher incidence of clinical deterioration, as did those with higher LVESV and LVEDV ($p = >0.05$). Among those who clinically deteriorated, only 22.2% had a significant reduction in LVEF compared to 8.6% in the other group ($p = 0.005$). 83 pts (18.2%) had evidence of echocardiographic deterioration, of whom only 47 (56.6%) clinically deteriorated. 36 patients (7.9%) had evidence of echocardiographic but not clinical deterioration. None of the baseline parameters were significant predictors of either clinical or echocardiographic deterioration.

Conclusions: In this cohort of CRT pts approximately 15% and 18% of pts exhibited clinical and echo deterioration during the first year after implantation. There was poor correlation between echocardiographic and clinical deterioration. Using baseline clinical and echocardiographic parameters we were unable to characterize those patients who were prone to deterioration