IS CHRONIC RIGHT VENTRICULAR PACING APPROPRIATE FOR ICD PATIENTS WHO HAVE LEFT VENTRICULAR DYSFUNCTION?

ACC Moderated Poster Contributions
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Background: Chronic right ventricular pacing (RVP) may cause left ventricular (LV) remodeling and heart failure (HF). However guidelines do not recommend cardiac resynchronization defibrillators (CRT-D) for patients without HF who need frequent ventricular pacing. We thus examined the effect of RVP on survival (Surv) in our ICD patients who have LV dysfunction (ejection fraction (EF) ≤35%).

Methods: Patients were adults ≥18yrs and followed from 2000-2011. The 3 groups were: 1-Patients with single (S) or dual (D) chamber ICDs who had RVP≥50% (S+D≥50%); 2- Patients with S or D ICDs who had RVP<50% (S+D<50%); 3-Patients who had CRT-D. Cumulative % RVP were based on interrogations. Surv were estimated by the Kaplan-Meier method and compared by the logrank test. A Cox proportional hazards model assessed the effects of clinical variables on Surv.

Results: Average age and EF of 1248 patients was 67.4 ± 12.0 years and 23.9% ± 7.2. The Surv of the 3 groups during mean follow-up of 3.7 ± 2.2 years are shown in the figure (unadjusted p<0.0001). The risk adjusted proportional hazards regression (HR±95%) revealed: S+D <50% relative to CRT: HR-0.99 [0.52-1.90] p=0.98; S+D≥50% relative to CRT: HR-2.12 [1.00-4.52] p=0.05; and S+D<50% relative to S+D≥50%: HR-0.47 [0.26-0.84] p=0.01.

Conclusions: Chronic RVP is associated with significantly reduced survival. This adverse effect of RVP on survival was not seen in CRT-D patients. Thus CRT-D appears appropriate for ICD patients who have LVD and require chronic ventricular pacing.