



A3.E26

JACC March 9, 2010

Volume 55, issue 10A

 **CARDIAC ARRHYTHMIAS**
SURVIVAL BENEFIT FROM CARDIAC RESYNCHRONIZATION THERAPY IN PATIENTS WITH BORDERLINE QRS DURATION

ACC Poster Contributions

Georgia World Congress Center, Hall B5

Sunday, March 14, 2010, 9:30 a.m.-10:30 a.m.

Session Title: Electrocardiographic Parameters Effect on Cardiac Pacing

Abstract Category: Cardiac Pacing

Presentation Number: 1025-140

Authors: *Olusegun Oyenuga, Phillip Habib, Hidekazu Tanaka, Stephanie C. Haberman, Evan C. Adelstein, Samir Saba, John Gorcsan, III, University Of Pittsburgh, Pittsburgh, PA*

Background: Cardiac resynchronization therapy (CRT) has been shown to improve survival in patients with wide QRS. However, the effects of CRT on patients with borderline QRS duration (100 - 130ms) with echocardiographic dyssynchrony is not clear.

Methods: To test the hypothesis that patients with borderline QRS and echo dyssynchrony have similar survival as patients with wide QRS after CRT, we studied 301 class III - IV heart failure patients with ejection fraction <35%. Borderline QRS patients had echo dyssynchrony assessed as: radial dyssynchrony by speckle tracking ≥ 130 ms, opposing wall delay by tissue Doppler analysis ≥ 65 ms or interventricular mechanical delay ≥ 40 ms. Survival free from transplant or left ventricular assist device after CRT was followed for 4 years.

Results: Of the 301 patients, 192 had wide QRS 165 ± 23 ms with age 66 ± 12 yrs 55% ICM and 33% female; 63 had borderline QRS 116 ± 8 ms with similar clinical features age 61 ± 12 yrs 55% ICM, 28% female. Also, 46 patients (age 65 ± 15 years, QRS 170 ± 31 ms, 53% ICM and 34% female) with attempted but failed CRT were used as a control. Both wide and borderline QRS patients had similar and significantly better event free survival after CRT than patients with failed CRT ($p < 0.001$).

Conclusions: Patients with borderline QRS duration selected for CRT using echocardiographic dyssynchrony appear to have a similarly favorable event free survival as those with wide QRS and has potential clinical implications.

