Heart Failure 2020

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Title : Impact of left ventricular ejection fraction and atrial fibrillation on Baroreflex Activation Therapy

Topic : 10.4.8 - Devices for Autonomic Modulation

Category :Clinical

Option : Oral Presentation

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Background: Despite available treatments, one third of heart failure (HF) patients with a reduced left ventricular ejection fraction (LVEF) remain in NYHA Class III. New treatments available include baroreflex activation therapy (BAT). No results have been published on its effectiveness in patients across varying levels of LVEF and history of atrial fibrillation (AF).
Purpose: Demonstrate the benefit of BAT in NYHA Class III HF patients by LVEF and AF status.
Methods: A multicenter trial conducted in subjects currently or recently with NYHA class III symptoms, LVEF ≤35%, stable optimal guideline directed therapy (GDT) for HF for at least 4 weeks, no class-I indication for cardiac resynchronization therapy, and NT-proBNP < 1600 pg/ml, randomized subjects 1:1 to BAT plus GDT or GDT alone (Control). Change from baseline to 6 months data was analyzed across LVEF and AF in 120 BAT and 125 Control subjects for 6-minute hall walk distance (6MHW), Minnesota Living with HF Questionnaire (QOL), NYHA Class and NT-proBNP.
Results: BAT significantly improves all outcomes in the LVEF / AF groups as shown below. BAT is the only device indicated in this HF population for patients who have AF or LVEF <25%.
Conclusion: BAT is effective in all groups studied and should be considered an effective treatment for these patients.

Six Month Improvement by AF and LVEF

6M Improvement Between the Arms	All subjects	History of AF	No History of AF
All subjects	BAT N=120 Control N=125	BAT N=33 Control N=54	BAT N=87 Control N=71
6MHW (meters)	60*	66*	57*
MLWHF (points)	-14*	-12*	-16*
NYHA (% improved)	34%*	27%*	37%*
NT-proBNP (% change)	-25%*	-23%	-25%*
LVEF < 25%	BAT N=30 Control N=28	BAT N=5 Control N=8	BAT N=25 Control N=20
6MHW (meters)	76*	127*	76*
MLWHF (points)	-15*	-16*	-15*
NYHA(% improved)	31%*	10%	38%*
NT-proBNP (% change)	-37%*	-64%*	-27%
LVEF 25%- 35%	BAT N=90 Control N=97	BAT N=28 Control N=46	BAT N=62 Control N=51
6MHW (meters)	56*	59*	51*
MLWHF (points)	-13*	-12*	-15*
NYHA(% improved)	35%*	30%*	37%*
NT-proBNP (% change)	-20%	-11%	-24%

Change from baseline estimates were adjusted for baseline value. *p<0.05

» Rules and Regulations