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Response To Barostim Therapy By Atrial Fibrillation Status

Author Block: Michael R.. Zile, MD, JoAnn Lindenfeld, MD, William T. Abraham, MD, Fred A. Weaver, MD, Faiez ZANNAD, MD, Elizabeth Galle, Tyson Rogers, MS and Vijendra Swarup, MD, FHRS. MUSC, , Vanderbilt University, Nashville, TN, The Ohio State University, Powell, OH, University of Southern California, Los Angeles, CA, Centre Hospitalier Universitaire de Nancy, Vandoeuvre les Nancy, France, CVRx Inc, Minneapolis, MN, NAMSA Inc, Minneapolis, MN, Arizona Heart Rhythm Center, Paradise Valley, AZ

Abstract:
Background: Patients with heart failure (HF) with reduced ejection fraction (HFrEF) can have varying responses to device-based HF therapies particularly when comparing those with and without a history of atrial fibrillation (AF).
Objective: Evaluate the response to baroreflex activation therapy (BAT) at 6 months in subjects with and without AF.
Methods: A multicenter trial (BeAT-HF) conducted in subjects with HFrEF, currently or recently with NYHA class III symptoms, left ventricular ejection fraction (LVEF) ≤ 35%, stable optimal medical HF management for at least 4 weeks, no class-1 indication for cardiac resynchronization therapy, and NT-proBNP<1600 pg/ml, randomized subjects 1:1 to receive BAROSTIM Therapy (BAT) or BAT plus guideline directed therapy (GDT) for HF. Change from baseline to 6 months data was collected in 120 BAT subjects and 125 BAT+GDT subjects for outcomes including: 6-minute hall walk distance (6MHW), Minnesota Living with HF Questionnaire (QOL), core lab read NT-proBNP and New York Functional Class (NYHA).
Results: A total of 87 (36%) of the 245 subjects had AF. A response to BAT was demonstrated with an improvement between the two arms for all endpoints, as shown in the Table below.
Conclusion: Among subjects with symptomatic HFrEF, treatment with BAT plus GDT, compared with GDT alone, demonstrates improvement in 6MHW, QOL, NT-proBNP, and NYHA in subjects with and without a history of AF.

Table: Improvement with BAT vs GDT by AF Status

	Δ Means*	p-value
Six Minute Hall Walk		
AF	66	<0.001
No AF	57	<0.001
Quality of Life		
AF	-12	0.002
No AF	-16	<0.001
NT-proBNP (% change)**		
AF	-23%	0.10
No AF	-25%	0.02
NYHA (% Improved)		
AF	27%	0.015
No AF	37%	<0.001

*The difference is evaluated based on an ANCOVA model adjusting for the baseline value.

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