**IMPROVEMENT IN CLINICAL OUTCOMES WITH BIVENTRICULAR VERSUS RIGHT VENTRICULAR PACING IN THE BLOCK HF STUDY**

**A.B. Curtis1**, S.J. Worley2, E.S. Chung3, P. Li4, S.A. Christman4, M. St. John Sutton5

1. University at Buffalo, Buffalo, NY, USA

2. Lancaster General Health

3. Ohio Heart and Vascular, The Christ Hospital Health Network

4. Medtronic, PLC

5. Hospital of the University of Pennsylvania

*Background*: Sustained right ventricular (RV) apical pacing may lead to deterioration in ventricular function and an increased risk of heart failure, especially in patients with pre-existing systolic dysfunction. The randomized Biventricular versus Right Ventricular Pacing in Heart Failure Patients with Atrioventricular Block (BLOCK HF) trial demonstrated that biventricular paced patients had a reduced incidence of a composite endpoint of death, heart failure-related urgent care, and adverse left ventricular remodeling. *Objective*: In a pre-specified analysis, we examined clinical outcomes, including clinical composite score, quality of life (QoL), and change in New York Heart Association (NYHA) classification.

*Methods*: The BLOCK HF trial randomized patients with atrioventricular block, NYHA class I-III HF, and left ventricular ejection fraction (LVEF) <50% to biventricular or RV pacing. NYHA classification, QoL, and clinical composite score were assessed at 6, 12, 18, and 24 months. Bayesian statistical methods were employed, with the metric of significance being a posterior probability (PP) >0.95.

*Results*: Patients with biventricular pacing showed significantly greater improvement in in NYHA class at 12 months, with 19% improved, 61% unchanged, and 17% worsened, compared to 12%/62%/23% in the RV arm. QoL was significantly improved through 12 months. CCS was significantly improved at 6 months, and this improvement was sustained through 24 months.

*Conclusions*: For patients with atrioventricular block and systolic dysfunction, biventricular pacing not only reduces the risk of mortality/morbidity, but also leads to better clinical outcomes, including improved quality of life and heart failure status, compared to RV pacing.