CLINICAL RESPONSE WITH ADAPTIVE CRT ALGORITHM COMPARED WITH CRT WITH ECHOCARDIOGRAPHY-OPTIMIZED

takashi sasou
Yusaku Nishikawa
Takehiro Gotou
Masahiro Tomita
Yuma Tsumagari
Kou Takahama
Masako Yamada

Introduction: CARDIAC RESYNCHRONIZATION THERAPY IMPROVES LEFT VENTRICULAR (LV) STRUCTURE AND FUNCTION AND CLINICAL OUTCOMES IN NYHA FUNCTIONAL CLASS III AND IV HF WITH PROLONGED QRS. OBJECTIVES: WE AIMED TO COMPARE THE CLINICAL RESPONSE BETWEEN ADAPTIVE CARDIAC RESYNCHRONIZATION THERAPY (ACRT) AND STANDARD CRT.

Methods: FIFTEEN PATIENTS WITH NYHA FUNCTIONAL CLASS III OR IV HEART FAILURE WITH A QRS $\geq$120 MS AND A LV EJECTION FRACTION $\leq$35% RECEIVED A CRT DEVICE AND WERE ACRT (N = 8) OR STANDARD CRT (N = 7). THE PRIMARY END POINT WAS THE HF CLINICAL COMPOSITE RESPONSE, WHICH SCORES PATIENTS AS IMPROVED, UNCHANGED, OR WORSENED. THE RETROSPECTIVE POWERED SECONDARY END POINT WAS LV END-SYSTOLIC VOLUME INDEX.

Result: THE HF CLINICAL COMPOSITE RESPONSE END POINT, WHICH COMPARED ONLY THE PERCENT WORSENED, INDICATED 13% WORSENED IN ACRT COMPARED WITH 43% IN STANDARD CRT (N.S.). PATIENTS ASSIGNED TO ACRT EXPERIENCED A IMPROVEMENT IN LV END-SYSTOLIC VOLUME INDEX (-15.8 +/- 16.5 ML/M2 VS. 10.8 +/-40.8 ML/M2, P =0.08) AND OTHER MEASURES OF LV REMODELING.

Conclusion: THE ACRT ALGORITHM IS SAFE AND AT LEAST AS EFFECTIVE AS BIV PACING WITH STANDARD CRT.