Cardiac Resynchronization Therapy offers no benefit beyond ICD therapy in narrow-QRS heart failure patients

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The Echocardiography Guided Cardiac Resynchronization Therapy (EchoCRT) study showed CRT, a standard of care in heart failure patients with a wide QRS, is not beneficial in patients with heart failure and a narrow QRS complex, below 130 milliseconds (msec).

The results reaffirm current guidelines excluding patients with a narrow QRS for CRT, and expand the body of evidence that simple electrocardiographic determination of QRS duration remains the most important predictor of the clinical benefits of CRT, rather than measures of mechanical dyssynchrony by echocardiography. Based on the results of EchoCRT, the identification of patients who will obtain the benefit of CRT can be done most easily by a 12 lead-ECG.

"Results from previous smaller trials had suggested a potential for CRT in heart failure patients with narrow QRS. EchoCRT now provides evidence from a definite outcome trial that patients with symptomatic heart failure with QRS width less than 130msec do not benefit from CRT," said co-lead investigator Frank Ruschitzka, MD, from the University Hospital in Zurich, Switzerland.

"The EchoCRT trial evaluated an important question for daily clinical practice. The results will help to guide physicians' treatment decisions for heart failure patients moving forwards." said co-lead investigator Johannes Holzmeister, MD, from University Hospital in Zurich,

Switzerland.

Dr, Ruschitzka added: "The widespread off-label use of CRT in patients with narrow QRS should no longer be used as an option for patients with a QRS below 130msec, regardless of mechanical dyssynchrony. This trial serves as a reminder that in clinical medicine adequately powered definitive clinical outcome trials are needed before we expand the use of an apparently favourable therapy."

"EchoCRT is a landmark trial, and will allow healthcare professionals to better treat narrow QRS heart failure patients." said U.S. co-lead investigator Dr. William T. Abraham from The Ohio State University Medical Center.

EchoCRT is the largest investigator-initiated, international, multi-centre, prospective, randomized, double-blind, clinical trial of its kind. At study closure, there were 809 patients randomized to CRT=ON or CRT=OFF and followed for a mean of 19.6 months. The primary outcome of all-cause mortality or first hospitalization for worsening heart failure occurred in 116 of 404 CRT patients versus 102 of 405 control patients (28.7% vs. 25.2%; hazard ratio, 1.20; 95% confidence interval [CI], 0.92 to 1.57; p=0.15) and did not demonstrate a benefit of CRT in the study population.

A total of 89.6% of patients met the primary safety endpoint, which was freedom from CRT-D device complications (defined as adverse events related to the implanted CRT device or leads that required additional invasive interventions to resolve) at six months after implantation. Overall mortality rates observed in the study groups are in general lower than mortality rates previously observed for this severe heart failure population. A nominally significant increase in mortality in patients receiving CRT was observed at the end of the study. However, these data have to be interpreted with great caution, since the trial was stopped

prematurely for futility and vital status of a number of subjects could not be confirmed at the end of the study.

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