### REDEFINING CRT RESPONSE

New Insights from the REVERSE Trial

Apart from rare, isolated situations, heart failure is incurable... A slowing of a progressive disease is a positive outcome.\(^2\)

#### Without CRT: Natural progression of HF disease\(^2\)

#### With CRT: Improved and Stabilized on BOTH LVE SVi and CCS measures\(^1\)

#### Improved or Stabilized on LVE SVi OR CCS measures\(^1\)

#### Worsened on BOTH LVE SVi and CCS measures\(^1\)

When CRT is used in patients who meet guideline recommended indications, there is no proven patient population that experiences a negative response to CRT.\(^2\)

In a new analysis of results from the REVERSE trial, mild HF patients who received CRT were classified as improved, stabilized, or worsened based upon:

- Clinical composite score (CCS)
- Change in left ventricular end systolic volume index (LVE SVi)

The analysis compared 5-year all-cause mortality across the subgroups.

### LONG-TERM SURVIVAL IS SIMILAR AMONG MILD HF PATIENTS WHO EITHER STABILIZE OR IMPROVE WITH CRT\(^1\)

Patients who stabilize with CRT have a much better prognosis than previously appreciated – suggesting that the current classification of “non-responder” is not appropriate.\(^1\)
REDEFINING CRT RESPONSE
New Insights from the REVERSE Trial*

Clinical Composite Score (CCS)
N = 406

Mortality Based on 12mo CCS
Log-rank test p-value = 0.03

Long-term survival is similar among mild HF patients who either stabilize or improve with CRT1

KEY TAKEAWAYS
- Long-term survival is similar among mild HF patients with stabilized and improved statuses1
- 6-month LVESVi is the most important predictor of long-term survival1
- The current classification of CRT ‘response’ does not predict long-term survival; propose to classify CRT outcomes as Improved, Stabilized, or Worsened1
- The poorest outcomes were seen in patients who worsened in both measures1
- The best outcomes were seen in patients who improved in both measures1
- When patient baseline differences were adjusted for, the analysis found no patients adversely affected by CRT1

METHODS
- Subjects in the CRT ON arm of the REVERSE trial were classified using 2 clinical methodologies
- Clinical Composite Score (CCS) at 1 year (improved, unchanged, worsened)
- % Change in Left Ventricular End Systolic Volume Index (LVESVi) at 6 months (improved ≥ 15% reduction, stabilized 0–15% reduction, worsened > 0% increase)
- Patients were followed for 5 years with all-cause mortality as the endpoint


Potential Adverse Events
Potential adverse events include, but are not limited to, rejection phenomena, erosion through the skin, muscle or nerve stimulation, oversensing, failure to detect and/or terminate arrhythmia episodes, and surgical complications such as hematoma, infection, inflammation, and thrombosis. An additional complication for CRT-Ps is the acceleration of ventricular tachycardia. Potential MRI complications for the SureScan system include, but are not limited to, lead electrode heating and tissue damage resulting in loss of sensing or capture or both, or MRI induced currents on leads resulting in continuous capture, VT/VF, and/or hemodynamic collapse; spontaneous tachyarrhythmia occurring during the scan that is not detected and treated because tachyarrhythmia detection is suspended while MRI SureScan is programmed to On; potential for VT/VF induction when the patient is programmed to an asynchronous pacing mode when MRI SureScan is programmed to On; no diaphragmatic stimulation is present at a pacing output of 0.5 V and at a pulse width of 1.0 ms. For pacemaker-dependent patients, it is not recommended to perform an MRI scan if the right ventricular (RV) lead capture threshold is greater than 2.0 V at 0.4 ms. A higher pacing capture threshold may indicate an issue with the implanted lead.

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