New Developments In CRT

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In patients with LBBB, CRT-D-induced reduction in LVESV at 1 year is associated with long-term survival benefit. Despite left ventricular reverse remodeling with CRT-D, there is no survival benefit and potential harm in patients without LBBB.

PV-guided hemodynamic optimization in CRT results in approximately one-third SW improvement on top of conventional CRT, caused by a mechanism of enhanced VA coupling. In contrast, dP/dt_{max} optimization favored LV contractility. Ultimately, acute changes in SW showed larger predictive value for long-term CRT response compared with dP/dt_{max}.

ATTAIN 4798

0.25mm active fixation hook
5.6Fr maximum lead diameter
Can be fixated in both target vessels and coronary sinus

Stable lead performance → Up to 9 months
Stable lead impedance → Up to 9 months
Zero displacements at 9 months
99% implant success rate

Women have improved rates of death and HF hospitalization with CRT-D and were less likely to experience ventricular arrhythmia when compared with men, after adjusting for differences in baseline characteristics over a prolonged follow-up.

Women are more likely to experience adverse procedure related events during CRT implantation. Thus, preventive strategies should be employed to minimize complication rate.

CENTRAL ILLUSTRATION: Effect of LCSD on Exercise in LQTS

Left Cardiac Sympathetic Denervation (LCSD) for LQTS Does Not Negatively Impact Peak Heart Rate, Cardiopulmonary Fitness, or Cardiac Contractility

55 patients with exercise testing pre- and post-LCSD
- No change in peak heart rate, peak VO₂, peak QTc, respiratory exchange ratio (RER), or left ventricular ejection fraction.

<table>
<thead>
<tr>
<th></th>
<th>Peak Heart Rate (bpm)</th>
<th>Peak Oxygen Consumption (VO₂)(mL/kg/m²)</th>
<th>Left Ventricular Ejection Fraction (%)</th>
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<tbody>
<tr>
<td>Total patients (N = 55)</td>
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<td>Beta-blocker therapy (BB tx) pre-LCSD (N = 40)</td>
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<td>No change in BB dose (N = 12)</td>
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<td>No BB tx pre-LCSD (N = 15)</td>
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<td>BB tx post-LCSD (N = 32)</td>
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<td>No BB tx post-LCSD (N = 8)</td>
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<td>BB tx post-LCSD (N = 5)</td>
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<td>No BB tx post-LCSD (N = 10)</td>
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Cardiopulmonary Fitness and Cardiac Contractility Before and After LCSD
- Patients included in subset analysis