there is no association observed. In total 23% of super responders is treated for a potentially life threatening arrhythmia during follow up.

### P3161 | BEDSIDE

**High value of right ventricular to left ventricular interlead electrical delay during right ventricular pacing predict favorable response in patients with cardiac resynchronization therapy**


**Introduction:** Anatomical and electrical separation of left ventricular (LV) and right ventricular (RV) (RV) electrodes is significant for successful cardiac resynchronization therapy (CRT). During bi-ventricular pacing, the electrical activation was composed by RV and LV pacing wavefronts. So the region with latest activation during intrinsic rhythm might not correspond to the optimal pacing site during CRT.

**Hypothesis:** We assess the hypothesis that interlead electrical delay measurements during RV and LV pacing besides intrinsic rhythm could predict favorable response to CRT.

**Methods and results:** We evaluated 51 heart failure patients (age 64±13 years, LV ejection fraction 28±12%, QRS duration 153±36ms) who were treated with CRT. The LV-RV interlead electrical delay (IED) during intrinsic rhythm, RV pacing (RV pacing-LV sensing; RVP-LVs) and LV pacing (LV pacing-RV sensing; LVP-RVs) were measured intraoperatively by utilizing intracardiac electrograms. After CRT implantation, 33 (65%) patients responded to CRT. The responders showed a significantly higher value of RVP-LVs compared with non-responders (141±36ms, respectively, p<0.04) and the absolute value of the difference between RVP-LVs and LVP-RVs was lower in responders than in non-responders (16±19 vs. 28±22ms, respectively, p<0.04). The IED during intrinsic rhythm (71±53 vs. 40±44ms, p=0.07) and LVP-RVs (170±47 vs. 146±35, p=0.06) showed higher tendency in responders, however they couldn’t predict responders. Moreover, among narrow QRS patients (n=21; median QRS duration 118ms, 95 to 144ms), RVP-LVs was significantly higher in responders than in non-responders (159±32 vs. 121±32ms, p<0.01). Same as the entire cohort, the IED during intrinsic rhythm couldn’t predict responders (59±24 vs. 35±36ms, p<0.11). At multivariate analysis, RVP-LVs was the only independent predictor of responder remodeling in narrow QRS subgroup (p=0.03).

**Conclusion:** Interlead electrical delay during intrinsic rhythm couldn’t predict LV reverse remodeling after CRT. However high value of RVP-LVs measured intraoperatively was associated with favorable response irrespective of QRS width, which implies an optimal LV lead position during CRT implantation.

**Methods:**

- **Acute haemodynamic response to cardiac resynchronization therapy is greater in patients with chronic right ventricular pacing compared to patients with intrinsic bundle branch block:**

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**Purpose:** Cardiac resynchronization therapy (CRT) is associated with acute haemodynamic improvement in patients with intrinsic bundle branch block and the magnitude of improvement has been correlated with QRS duration. The acute haemodynamic effect of CRT in patients with chronic right ventricular (RV) pacing is unclear. We investigated the magnitude and predictors of acute haemodynamic response to CRT in patients with chronic RV pacing compared to intrinsic bundle branch block (BBB).

**Methods:** We performed a retrospective, single centre study to compare the acute haemodynamic response to CRT between patients with RV pacing and patients with intrinsic BBB. Baseline intra-arterial pulse pressure (PP) and acute change in response to CRT (delta PP) were measured. Baseline PP, pre-CRT QRS duration and, where available, right heart catheterisation data were analysed for predictors of delta PP.

**Results:** The RV paced group (n=89) displayed a significantly greater delta PP (p<0.001) compared to the intrinsic BBB group (n=41; mean 24±14 vs. 14±10 mmHg, respectively, Figure 1). In multivariate linear regression analysis, predictors of delta PP were: baseline mean pulmonary artery pressure, baseline PP, and RV pacing (2 x 0.164, p<0.001). QRS duration did not predict haemodynamic response to CRT.

**Figure 1**

Distribution of ICD therapy by response

**Conclusions:** Patients with chronic RV pacing display a greater haemodynamic response compared to patients with intrinsic BBB.