Methods: A group of 100 consecutive patients (pts) in sinus rhythm, with intrinsic AV < 200 ms, successfully implanted CRT were randomized to FOI vs nominal programming group (NOM). Mean age 66±10 years, 68 males, 30% ischemic cardiomyopathy, LV ejection fraction 27±7%, QRS 177±34 ms. The AV interval was optimized looking narrowest QRS with fusion from intrinsic conduction during LV pacing. The VV interval was then adjusted measuring QRS duration introducing RV pacing at VV 60 ms, VV 30 ms and VV 0 ms. Pts were seen at 6-months intervals. Clinical response was defined as an increase >10% at the 6 minutes walking test (6MWT) or improve 1 point functional class. LV remodeling was defined as an increase in -10% points in LV ejection fraction.

Results: Of 100 pt, 49 (49%) were randomized to FOI and 51 (51%) to NOM. Baseline clinical and echocardiographic parameters were comparable among the 2 groups. The QRS duration was further reduced in FOI pts: 125±10.9 ms vs NOM: 144±3±25.8 ms, p < 0.005. By FOI all pts showed >10% shortening of the baseline QRS. Percentage of ventricular pacing was 96±7% in FOI vs 96±5% in NOM, p=0.42. At 12 months overall mortality was similar in both groups. The percentage of clinical responders was 80% in FOI vs 78% in NOM, p=NS. Reverse LV remodeling was obtained in 61% of FOI pts vs 33% in NOM, p=0.02.

Conclusions: Device optimization by ECG based on QRS width looking for fusion; achieve a shorter QRS at baseline and results in increased number of ECO responders at 12 months follow up as compared to nominal programming.

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Acute haemodynamic improvement with cardiac resynchronisation therapy is predicted by baseline haemodynamic status

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Purpose: Acute haemodynamic improvement with cardiac resynchronisation therapy (CRT) is often used to guide optimization of device function, and may predict long-term response to therapy. This study aimed to identify with acute haemodynamic response to CRT but other predictors are not known. We investigated whether baseline invasive haemodynamic parameters predict acute haemodynamic response to CRT.

Methods: We performed a retrospective, single centre study of patients who had intra-aortic BP measurement via radial arterial line at baseline and acutely following CRT implantation. Of these patients, the majority additionally underwent right heart catheterization (RHC) immediately prior to CRT. We analysed the relationship between baseline haemodynamic parameters (pulse pressure (PP), pulmonary capillary wedge pressure (PCWP) and cardiac index (CI)) and acute pulse pressure change in response to CRT (delta PP).

Results: 224 patients had invasive arterial BP measurements recorded pre- and post-CRT. Of these patients, 180 had RHC. Baseline CI correlated with delta PP (Ppearson r=0.297, p=0.0001). CRT significantly increased PP from 54.8±15.6mmHg to 59.1±15.6mmHg (p=0.0001), resulting in a mean delta PP of 4.4±1.5mmHg. There was inverse correlation between baseline PP and delta PP (r=-0.227, p=0.0006), and baseline CI and delta PP (r=-0.199, p=0.008), and a positive correlation between baseline PCWP and delta PP (r=0.281, p=0.0001, Figure 1).

Conclusions: Adverse baseline haemodynamic status, characterised by narrower PP, lower CI, and higher PCWP, is associated with greater increments in PP acutely following CRT.

**P3173 | BEDSIDE**

Impact of the left ventricular lead position for long-term prognosis after cardiac resynchronization therapy in heart failure patients


Background: An important determinant of successful cardiac resynchronization therapy for heart failure is the position of the left ventricular (LV) pacing lead. This study was performed to analyze the impact of the different lead position on outcome in patients with cardiac resynchronization therapy (CRT).

Objective: We assessed the relationship among anatomic LV lead position and long-term mortality and morbidity in CRT patients.

Methods: The location of the LV lead was assessed by means of coronary venograms and chest x-rays recorded at the time of device implantation. The LV lead location was classified along the short axis into an anterior, lateral, or posterior position and along the long axis into a basal, midventricular, or apical region. Echocardiographic reduction of LV end-systolic volume, increase of LV ejection fraction and clinical outcomes were evaluated with respect to the LV lead position.

Results: Totally 91 patients implanted with CRT from July 2004 to July 2011 were included in this analysis, and median follow-up period was 34 months. The LV lead was placed in the LV apex in 3 (3%) patients, in the midventricular position in 64 (70%), in the basal position in 19 (21%) patients. Pts were seen at 6-months intervals. Clinical response was defined as an increase >10% at the 6 minutes walking test (6MWT) or improve 1 point functional class. LV remodeling was defined as an increase in -10% points in LV ejection fraction.

Conclusions: We considered 46.8% responders. In post implantation, the LV ejection fraction was further reduced in FOI pts: 125±10.9 ms vs NOM: 144±3±25.8 ms, p < 0.005. By FOI all pts showed >10% shortening of the baseline QRS. Percentage of ventricular pacing was 96±7% in FOI vs 96±5% in NOM, p=0.42. At 12 months overall mortality was similar in both groups. The percentage of clinical responders was 80% in FOI vs 78% in NOM, p=NS. Reverse LV remodeling was obtained in 61% of FOI pts vs 33% in NOM, p=0.02.

Introduction: Doubts remain about the impact of cardiac resynchronization therapy (CRT) on left atrial remodeling.

**P3174 | BEDSIDE**

Impact of cardiac resynchronisation therapy on left atrial geometry: a prospective study


Objective; We assessed the relationship between anatomic LV lead position and adverse baseline haemodynamic status, characterised by narrow PP, lower CI, and higher PCWP, is associated with greater increments in PP acutely following CRT.