**Supplementary table 1. Baseline characteristics.**

|  |  |
| --- | --- |
|  | Study population (n=104) |
| **Clinical variables** |  |
| * Age (years)
 | 78.0±10.0 |
| * BMI
 | 28.9±5.4 |
| * Male
 | 52 (50) |
| * Hypertension
 | 87 (83.7) |
| * Diabetes mellitus
 | 32 (30.8) |
| * AF
 | 50 (48.1) |
| * CKD\*
 | 18 (17.5) |
| * Coronary heart disease
 | 14 (13.5) |
| * COPD
 | 10 (9.6) |
| * Previous heart failure
 | 25 (24) |
| **Medical treatment** |  |
| * Anticoagulation
 | 56 (53.8) |
| * Beta blockers
 | 33 (31.7) |
| * ACEI/ARB
 | 61 (58.7) |
| * Sacubitril/Valsartan
 | 7 (6.7) |
| * Aldosterone antagonist
 | 18 (17.6) |
| **Pacing indication** |  |
| * AV block
 | 36 (34.6) |
| * Slow AF/bradycardia-tachycardia syndrome
 | 41 (39.5) |
| * Sinus node disease
 | 14 (13.5) |
| * CRT
 | 7 (6.7) |
| * Bifascicular block+syncope/alternant BBB
 | 6 (5.8) |
| **Echocardiographic parameters** |  |
| * LVEF (%)
 | 57.4±11.3 |
| * LVEF < 40%
 | 13 (12.7) |
| * LVEDD (mm)
 | 46.6± 6.3 |
| * IVS thickness (mm)
 | 12.1±3.0 |
| * Left atrial volume (ml/m2)
 | 47.8±19.0 |
| **Baseline ECG characteristics** |  |
| * PR interval
 | 186.9±61.5 |
| * Native QRS width (ms)
 | 115.9±31.9 |
| * QTc interval
 | 435.3±37.3 |
| * Wide QRS complex (>120 ms)
 | 43 (41.3) |
| **Baseline ECG morphology \*\*** |  |
| * Isolated RBBB
 | 13 (27.1) |
| * RBBB + LFB
 | 15 (31.3) |
| * LBBB
 | 10 (20.8) |
| * NIVCD
 | 1 (2.1) |
| * Asystole/PM dependent
 | 4 (8.3) |

Values are mean ± standard deviation (SD) and n (%).

\*Glomerular filtration rate < 60 ml/kg/1.73 m2

\*\* Percentages related to wide QRS complex patients

ACEI: angiotensin-converting enzyme inhibitors; AF: atrial fibrillation; ARB: angiotensin receptor blocker; AV: atrioventricular; BBB: bundle branch block; BMI: body mass index; CKD: Chronic kidney disease; COPD: Chronic obstructive pulmonary disease; CRT: cardiac resynchronization therapy; IVS: Interventricular septum; LBBB: left bundle branch block; LFB: left fascicular block; LVEDD: Left ventricular end-diastolic diameter; LVEF: left ventricular ejection fraction; LVSP: left ventricular septal pacing; ns-LBBP: non selective-left bundle branch pacing; PM: pacemaker; RBBB: right bundle branch block

**Table 2. Procedural characteristics**

|  |  |
| --- | --- |
|  | Study population (n=104) |
| LBBAP lead placement |  |
| * Fluoroscopy (min)
 | 9.1±10.3 |
| * Time (min)
 | 19.1±18.5 |
| Paced QRS morphology (ns-LBBP) |  |
| * QRS duration (from onset) (ms)
 | 113.8±16.9 |
| * QRS duration (from stimulus) (ms)
 | 146.7±20.7 |
| LB potential | 57 (56.4) |
| LB potential to QRS onset (ms) | 21.2±6.7 |
| Type of LBB capture |  |
| * LBB trunk
 | 14 (14.4) |
| * Left anterior fascicle
 | 9 (9.3) |
| * Left posterior fascicle
 | 33 (34) |
| * Left septal fascicle
 | 41 (42.3) |
| Electrical parameters (acute setting) |  |
| * R wave sensing (mV)
 | 9.6±4.3 |
| * Impedance (Ohm)
 | 981.8±218.1 |
| * Threshold (Volts) (x 0.4 ms)
 | 0.9±0.6 |
| Type of device implanted |  |
| * SR
 | 30 (28.8) |
| * DR
* CRT-P
* CRT-ICD
 | 67 (64.4)3 (2.9)4 (3.8) |

Values are mean ± standard deviation (SD) and n (%).

CRT-P: cardiac resynchronization therapy-pacemaker; CRT-ICD: cardiac resynchronization therapy-implantable cardioverter defibrillator; LB: left bundle; LBB: left bundle branch; LVSP: left ventricular septal pacing; ns-LBBP: nonselective left bundle branch pacing; RWPT: R wave peak time.

**Supplementary table 3. ECG-based criteria in the lead screwing transition group, according to the concomitant presence of non-selective to selective LBBP transition.**

 **ns-LBBP morphologies LVSP morphologies**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | LVSP to ns-LBBP transition only (n=33) | ns-LBBP to s-LBBP (n=11) | p value | LVSP to ns-LBBP transition only (n=33) | ns-LBBP to s-LBBP (n=11) | p value |
| Paced V6-RWPT (ms) | 74.1±8.5 | 77.8±12.3 | 0.505 | 90.3±8.1 | 96.5±10.8 | 0.079 |
| V6-V1 interpeak (ms) | 42.3±13.2 | 45.1±9.2 | 0.260 | 24.9±11.7 | 25.4±7.9 | 0.757 |
| Paced aVL-RWPT (ms) | 77.8±16.1 | 83.5±17.2 | 0.382 | 90.4±19.0 | 97.7±11.7 | 0.219 |
| LBBP score (mean) | 4.9±2.2 | 5.3±1.9 | 0.577 | 0.9±1.3 | 0.4±0.8 | 0.246 |

LBBP: left bundle branch pacing; LVSP: left ventricular septal pacing; ns-LBBP: nonselective left bundle branch pacing; RWPT: R wave peak time; s-LBBP: selective left bundle branch pacing