**A10-2 DIFFERENCES IN VENTRICULAR ARRYTHMIAS DEVELOPED BY ISCHEMIC AND NON-ISCHEMIC HEART FAILURE PATIENTS IMPLANTED WITH BIVENTRICULAR CARDCOVERTER-DEFIBRILLATORS: THE INSYNC ICD ITALIAN REGISTRY**

G. Doriani, M. Gigaroni, M. Lusiani, M. Bocchiardo, A. Carcin, A. Puglisi, G. Zanotto, A. Cancrini, A. Denari, I. Vicini, S. Orsola (Bologna -It&z), Humanitas (Rozzano -It&z), Niguarda (Milano -It&z), Civile (Asti -It&z), Civile (Parma -It&z), Medhonic Italia, Medhonic Italia

**Aim**

To evaluate the ventricular arrhythmic events developed by ischemic (I) and non-ischemic (NI) heart failure (HF) patients (pts) implanted with an ICD for cardiac resynchronization therapy (CRT) (Mycelcon Sync ICD) for primary (PP) or secondary prevention (SP) of sudden death.

**Methods**

219 pts (91% male, age 65 ± 10 yrs, NYHA 3.0 ± 0.6, EF 26 ± 7%, QRS 161 ± 51 ms) were implanted and followed in the EnSync ICD Italian Registry. Etiology was I in 58% and N-I in 42% of pts. 135 pts (53%) were implanted for SP (23 prior cardiac arrest, 66 recurrent sustained VT, 26 upgrade to ICD); 104 (47%) for PP.

**Results**

Over a median period of 13.2 months, pts with at least 6 months FL and compliant data were 130 (48 1, 62 N). The efficacy of CRT was evident in term of functional improvement. 14 pts died for pump failure. 23 pts (11 I, 12 N-I) developed 88 ventricular arrhythmic events (VAE): 75 VT, 13 VF. There were no statistical differences in term of baseline clinical condition, ICD indication (3 pts implanted for primary prevention in both groups) and VT/VF detection window programming between I and NI pts. N-I pts: 18 VT and 1 VF self-terminated, ATP (9 with 1' ATP) and 12 with shock; 60 VAE (47 VT: cycle length 361±58 ms, p<0.004). Moreover, after 12 weeks of continuous pacing, AL increased in 18 N-I pts (from 43±1.9 to 11.2±2.6/units (p<0.001). Max HR did not significantly increased over time as respect to baseline (from 98.2±3.4 to 99.4±4.3, p=0.6).

**Conclusions**

The Contak-Renewal II device allows continuous assessment of surrogate parameters of autonomic-nerv system activity. CRT-D provided a marked improvement of autonomic function, as demonstrated by reduction of mean HR and increase of SDANN. Moreover, a higher degree of physical activity after 12 weeks of pacing was noted. Such improvements in HR and HRV behaviour, related to reduction of sympathetic activity and increase of parasympathetic tone induced by CRT, may suggest a better mid-term prognosis in HF pts.

**A10-3 HEART RATE VARIABILITY AND HEART RATE EARLY CHANGES INDUCED BY VENTRICULAR PACING IN ADVANCES CONGESTIVE HEART FAILURE**

G. Giaidh, M. Khos, C. Fantoni, E. Ruzg, M. Khos, A. Auricchio. Division of Cardiology, University of Magdeburg, Germany

Cardiac resynchronization therapy (CRT) is a novel therapy in patients with congestive heart failure (HF). Continuous, weekly monitoring of minimum, maximum and mean heart rate (HR), HR range (min to max), heart rate variability (HRV) and daily physical activity of pts with HF and CRT has not been previously investigated in detail. Data stored on a CRT-D (Contak-Renewal II, Guidant, USA) implanted in 25 pts (mean age 60.6±3.8 years, QRS duration 149±6.68 msec, LVF 19±1.9%) with symptomatic functional NYHA class III-IV (Hrs to 2 patients with advanced heart failure (HF) patients (pts) implanted with an ICD for cardiac resynchronization therapy (CRT) (Mycelcon Sync ICD) for primary (PP) or secondary prevention (SP) of sudden death.

**Methods**

Fourty-three consecutive pts (34 men, 70±8 years old) with HF (NYHA functional class III-IV), LV ejection fraction (LVEF) <55%, left bundle branch block and QRS width > 120 ms were included. A 2D echo-Doppler study was performed in each p before, immediately after (Off and On respectively) and 6 months after the implantation and activation of a biventricular pacing device. LV systolic function was assessed by comparing LV end-diastolic and end-systolic diameters (LVEDD and LVESE) and LVEF. LV diastolic function was analyzed with LV inflow velocities (E and A waves), deceleration time of the E wave, LV inflow propagation velocity (Vp), pulmonary vein velocities (S and D waves) and lateral mitral annulus velocities obtained by Tissue Doppler.

**Background**

Cardiac resynchronization therapy (CRT) using biventricular pacing has been shown to improve symptoms in patients (p) with advanced heart failure (HF) and delayed ventricular conduction. Objective: We investigated the impact of CRT on echocardiographic variables of left ventricular (LV) function.

**Methods**

**Results**

All pt except for 2 pts with advanced heart failure (HF) patients (pts) implanted with an ICD for cardiac resynchronization therapy (CRT) (Mycelcon Sync ICD) for primary (PP) or secondary prevention (SP) of sudden death.

**Conclusions**

BiP is associated with acute improvement of LV function parameters and reduction in TR velocity. Such improvement appears to parallel and that is likely to be secondary to improvement of LV function.