

Methods: Study population included 40 patients (mean age 58±9 years) with non-ischemic dilated cardiomyopathy (EF 25.7±5.4%) and QRS duration of 158±22ms, planned for CRT. Before CRT implantation, CFR was measured noninvasively during hyperemia induced with adenosine. Responders were defined by decrease in end-systolic volume (ESV) ≥15%. Follow-up echocardiography were obtained after 6 months. Patients were followed for MACE occurrence for 1 year.

Results: At baseline, was no significant difference in left ventricular ejection fraction (LVEF), QRS duration, 6 min walk test distance and coronary flow velocity at rest between responder (n=26) vs. non-responder group (n=14, p=ns). Before CRT implantation, responders compared with non-responders, showed a greater increase in coronary flow velocity during hyperemia, and consequently higher CFR: 2.41±0.60 vs. 1.61±0.45 (p=0.001). During one year 4 patients died, all in the group with CFR<2. By Kaplan-Meier analysis, it was shown that patients having CFR>2 had a significantly higher survival rate (P=0.018). End-diastolic, end-systolic left ventricular diameter and CFR before CRT were predictors of LV functional improvement. By multivariate analysis, only CFR before CRT was independent predictor of left ventricular recovery in the follow-up period (p=0.001).

Conclusion: Our results demonstrate that preserved CFR in patients with dilated cardiomyopathy is predictive of left ventricular improvement after CRT implantation. Moreover, patients with CFR <2 before, have a lower survival rate in the shorter time period after CRT. These results should be confirmed in larger studies.

P811

Mechanical dyssynchrony as a predictor of superresponse in patients with cardiac resynchronisation therapy

N. Shirokov; V. Kuznetsov; A. Soldatova; C. Diachkov; D. Krinochkin
Tyumen Cardiology Center, Tyumen, Russian Federation

Background: Data from multicenter studies suggest that left bundle branch block (LBBB) and wide QRS complex are associated with good response to cardiac resynchronisation therapy (CRT). Other studies evaluated echocardiographic parameters of mechanical dyssynchrony (MD) for patient selection to CRT. However, in real clinical practice the usage of these criteria is still debated.

The purpose: to evaluate clinical and morpho-functional features in patients with congestive heart failure (CHF) and superresponse (SR) to CRT, to find predictors of SR.

Methods: The study enrolled 79 patients (88.9% men, 11.1% women, mean age 53.7 ± 9.1 years, 55.3% with ischemic cardiomyopathy) with II-IV NYHA functional class. Patients were examined at baseline and in dynamics (mean follow-up period was 10.6 ± 3.7 months). According to dynamics of left ventricular (LV) end-systolic volume (ESV) patients were divided into two groups: I gr. (n = 19) with decrease of LV ESV ≥ 30% (superresponders) and II gr. (n=60) - decrease of LV ESV < 30% (non-superresponders).

Results: At baseline groups didn't differ in main clinical characteristics, including the presence of left bundle branch block (LBBB). The width of QRS complex was higher in superresponders (162.3 ± 42.8 ms in the I group vs 139.8 ± 35.0 ms in the II group; p = 0.046). Parameters of MD were higher in superresponders: LV pre-ejection period (PEP) (159.2 ± 34.9 ms vs 135.9 ± 35.6 ms; p = 0.020), interventricular mechanical delay (IVMD) (73.0 [46; 108] ms vs 42.5 [18; 70] ms; p = 0.005) and intra-ventricular delay (IVD) assessed by tissue Doppler imaging (TDI) (110.0 [35; 153] ms vs 60.0 [29; 100] ms, p = 0.034). In both groups there was a statistically significant improvement in echocardiographic parameters. In dynamics patients with SR had significantly lower LV ESV (103.0 ± 32.8 ml vs 155.4 ± 51.5 ml; p < 0.001), the LV end-diastolic volume (184.2 ± 38.3 ml vs 233.8 ± 60.5 ml; p = 0.002) and the higher LV ejection fraction (45.4 ± 7.2% and 34.8 ± 6.2%; p < 0.001). The mean changes of IVMD (40.5 [15.3; 62] msec vs 17.0 [0; 45] ms; p = 0.041) and IVMD by TDI (62.0 [20; 105] msec vs 30.0 [0; 75] ms; p = 0.021) were also significantly higher in the group of superresponders. According to the logistic regression IVMD (OR 1.019, 95% CI 1.004 - 1.035; p = 0.014) had an independent association with SR. According to the ROC analysis the sensitivity and specificity of this model in the prediction of SR in patients with CRT were 68.4% and 63.3% respectively with the cut of value of IVMD 58.5 ms (AUC = 0.716; p = 0.005).

Conclusion: in patients with CHF more severe MD is associated with SR to CRT. LBBB was not associated with CRT SR. Probably the value of IVMD can be used as an independent predictor of SR to CRT in patients with CHF.

P812

Should we use cardiac resynchronization therapy-pacemaker more frequently?

JC. Corona-Guerrero; E. Arana; M. Frutos-Lopez; J. Acosta; E. Jimenez-Baena; N. Verseci; B. Jauregui; A. Pedrote
Virgen del Rocio University Hospital, Seville, Spain

Background: There is no strong scientific evidence to support the benefit of adding a defibrillator to every patient who is candidate for cardiac-resynchronization therapy (CRT) due to heart failure.

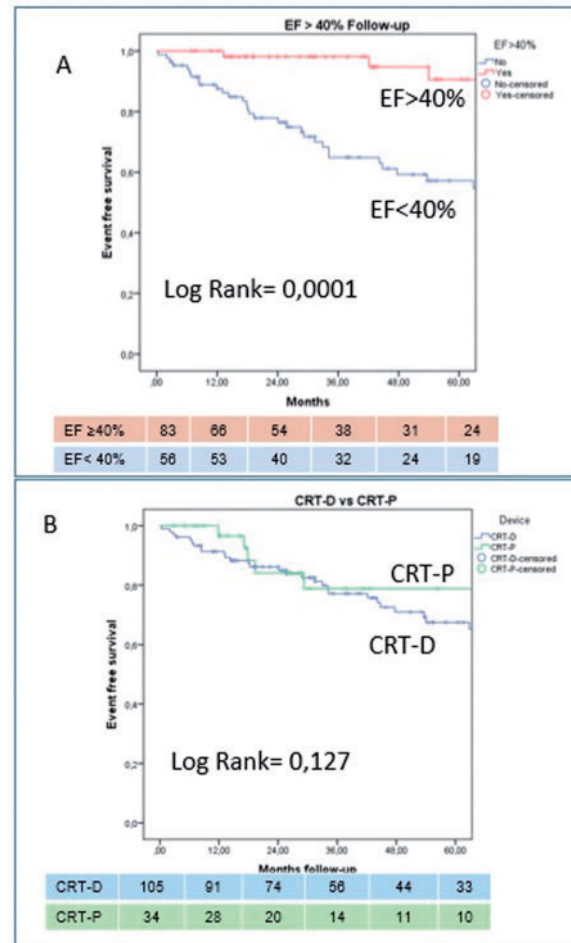
Objective: To analyze the clinical characteristics, CRT response and long-term survival in a single center prospective series of primary prevention patients with classic CRT indication, according to the type of the device [CRT with defibrillator capabilities (CRT-D) or CRT-pacemaker (CRT-P)].

Methods: One-hundred thirty-nine consecutive patients were included [67 (p25-75 61-73) years; 74% male; 24.5% ischaemic]. Mean left ventricular ejection fraction (LVEF) was 25±6%. A CRT-D was implanted in 105 (75.5%) and 34 patients received a CRT-P (24.5%). We evaluated the response to CRT in terms of LVEF at

>6 months from the implant, and survival during long-term follow-up. Response to CRT and loss of ICD indication was defined as LVEF>40% during follow-up. We analyzed the impact of the type of device (CRT-D vs CRT-P) on CRT response and global long-term mortality.

Results: Patients with CRT-P were older (65 vs 75 years; p=0,003), with worse NYHA class (NYHA>II 47,6% vs 73,5%; p= 0,008) and more comorbidity (Providence score >3; 37% vs 64,7%; p=0,005). After a median follow-up of 37 (p25-75 18-70) months, 40,3% of patients achieved a LVEF>40% (18% LVEF>50%), without difference between CRT-P and CRT-D groups (p=0,35). There was a 27% rate of death at 28 (p25-75 13-56) months from implant, 63% due to advanced heart failure. There was no difference in global mortality according to the type of device (Log Rank P= 0,21). Patients with LVEF >40% during follow-up presented lower global mortality (Log Rank P=0,001). Achievement of LVEF>40% after CRT was the most powerful independent predictor of mortality in the multivariate analysis (HR 0,22; IC95% 0,1-0,54).

Conclusions: In the present observational study, long-term survival was determined mainly by CRT response, regardless of the type of the device (CRT-P or CRT-D). Thus, CRT-P should be used more frequently in primary prevention patients.



Abstract P812 Figure. Kaplan-Meier survival analysis

P813

Do we need to use cardiac resynchronization therapy pacemaker more? Comparative study to cardiac resynchronization therapy defibrillator

R. Ramirez Rodriguez¹; AM. Ramirez Rodriguez²; E. Caballero Dorta¹
¹Doctor Negrinis Hospital, Las Palmas G. C, Spain; ²Insular Hospital, Las Palmas G. C, Spain

Background: Cardiac resynchronization therapy (CRT) is commonly used to manage heart failure, yet published guidelines do not distinguish between recommendations for pacemakers (CRT-P) and defibrillators (CRT-D). There is currently no strong scientific evidence indicating that a cardiac resynchronization therapy implantable cardioverter defibrillator (CRT-D) must be offered to all candidates for CRT.

Purpose: To analyze baseline clinical, echocardiographic and electrocardiographic characteristics according to the type of device CRT-P vs CRT-D, to evaluate long term survival and examine the factors that predict greater response to the CRT.

Methods: Prospective cohort study from 345 consecutive patients undergoing CRT from 17 May 2012 to 21 December 2016, 202 of whom (58.6%) were CRT-P and 143 (41,4%) were CRT-D.

Downloaded from https://academic.oup.com/europace/article/20/suppl_1/147/4930329 by guest on 20 April 2024