

How to choose between a pacemaker or defibrillator for resynchronization therapy? — C. Gillebert,

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Objective. The use of cardiac resynchronisation is an established therapy for patients with moderate to severe heart failure. The choice between a pacemaker (CRT-P) or a defibrillator (CRT-D) is still a matter of debate. We hypothesised that when selecting patients based on comorbidities and age as proposed by the ESC-guidelines, there would not be a long-term survival benefit of CRT-D compared to CRT-P.

Methods. We performed a retrospective analysis of all patients who received a cardiac resynchronization device at the University Hospitals Leuven between January 2001 and December 2007. Baseline characteristics were compared using an unpaired T-test for continuous variables or a Fisher's exact test for dichotomous variables. For the analysis of the association between predictors and outcome, uni- and multivariate Cox regression analyses were performed. We present data from 3 different multivariate models.

Results. Between 2001 to 2007 a total of 144 CRT devices were implanted at University Hospitals Leuven (CRT-D n=98, CRT-P n=46). As expected, patients who received a CRT-P were older and had a higher prevalence of comorbidities. Patients who received a CRT-D had a significant lower mortality. When applying incremental multivariate analysis using 1st variables that had a *P*-value of <0.05 in univariate analysis, 2nd variables with a *P*-value <0.10 and 3th adding on top all the baseline variables that were significantly different between the 2 groups, the significance of a possible survival benefit for CRT-D over CRT-P disappeared: hazard ratio 2.21 (*P*=0.008), HR 1.81 (*P*=0.069) to HR 1.85 (*P*=0.091). The use of amiodarone and the presence of COPD or renal insufficiency remained associated with a significant higher mortality risk, while the use of beta-blockers was protective in all 3 models.

Conclusion. In our analysis, the choice of a CRT-D seemed a predictor of improved survival in simple but not in more complex multivariable analyses. The fact that the survival benefit strongly depended on the number of co-variables suggests that it is at most marginal. Further studies should be performed to assess the additional value of CRT-D over CRT-P and to develop clinical useful risk scores to guide this difficult clinical decision.

Telemonitoring for disease management in a tertiary care centre: a tool or a treatment? — J. Van der Auwera^{1,2}, C. Smeets^{1,2}, V. Storms^{1,2}, P. Vandevooort^{1,3}, L. Grieten^{1,3} (¹Mobile health unit, Hasselt University, Hasselt, B, ²Faculty of medicine and life sciences, Hasselt

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Objectives. The aim of this study was to evaluate the impact of the global telemonitoring management of Ziekenhuis Oost-Limburg (Genk, Belgium) in patients with an implantable cardiac defibrillator (ICD, 31%) or cardiac resynchronization therapy (CRT, 69%). As telemonitoring acts as an additional treatment for such patients, we analysed the number of telemonitoring alerts, interventions and outcomes.

Methods. Currently, 528 patients are enrolled in our telemonitoring program. In this retrospective cohort study, 368 patients enrolled from February 2010 until May 2013, were analysed. Their implanted cardiac devices send data to the hospital and generate an alert if certain thresholds are crossed. All alerts were classified in different categories and analysed to find out which action was coupled to a certain alert. If the alert was considered relevant, the patient was called, education was given and a possible early intervention could occur (i.e. change in medication or a visit to the cardiologist, general practitioner or the emergency department).

Results. At a follow-up of 30 months, 90% of the patients (90% males, average age of 68 years, baseline NYHA class 2.74 and BSA of 1.71 m²) was still alive and almost 89% was free from heart failure hospitalization. During 720 patient-years of follow-up (+/-2 patient-years per patient), 1475 telemonitoring alerts were generated, including rhythm (40%), device (8%), fluid accumulation (33%), missed transmissions (13%) and 'others' (6%). The dedicated caregivers considered in 60% that the alert was relevant and served as a trigger to further investigate and interrogate the patient to identify the cause of the alert. If the patient was called, in most cases education was provided. However, in 35% a real intervention was necessary. Patients were mainly sent to the cardiologist (21%) instead of a visit to the general practice (4%) or the emergency department (2%). Regarding medication, in only 8% a change in medication occurred, mostly changes in loop diuretics (5%) were made.

Conclusion. In this single centre observational study, 40% of the alerts were considered as irrelevant indicating that there is still room for improvement on the specificity of the alerts. However, in 60% an action was undertaken which may have a positive effect on the number of in-clinic consultations and re-admissions. Nonetheless, further development and refinement of the applied telemonitoring strategies will result in an improved patient care and could benefit the socio-economic aspect.

Role of implantable cardiac monitor in the etiologic diagnosis of syncope. — E.J. Martinez-Garcia,

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