

A. Kosztin<sup>1</sup>, W. Schwertner<sup>1</sup>, Z.S. Bojtar<sup>1</sup>, A. Kovacs<sup>1</sup>, E. Zima<sup>1</sup>, L. Geller<sup>1</sup>, V. Kutiyifa<sup>2</sup>, B. Merkely<sup>2</sup>, <sup>1</sup>Semmelweis University, Heart Center - Budapest - Hungary, <sup>2</sup>University of Rochester, Cardiology Division - Rochester - United States of America:

## Long-term clinical outcome of patients after de novo vs. upgrade cardiac resynchronization therapy: a high volume, single center experience

### Abstract: P5491

#### Long-term clinical outcome of patients after de novo vs. upgrade cardiac resynchronization therapy: a high volume, single center experience

**Authors:**

A. Kosztin<sup>1</sup>, W. Schwertner<sup>1</sup>, Z.S. Bojtar<sup>1</sup>, A. Kovacs<sup>1</sup>, E. Zima<sup>1</sup>, L. Geller<sup>1</sup>, V. Kutiyifa<sup>2</sup>, B. Merkely<sup>2</sup>, <sup>1</sup>Semmelweis University, Heart Center - Budapest - Hungary, <sup>2</sup>University of Rochester, Cardiology Division - Rochester - United States of America,

**Topic(s):**

Cardiac resynchronisation therapy

**Citation:**

European Heart Journal ( 2017 ) 38 ( Supplement ), 1172

**Background:** Biventricular (CRT) upgrade affects about 10% of patients who have undergone implantable cardiac defibrillator (ICD) or conventional pacemaker (PM) implantation. However the current guidelines do not provide a comprehensive recommendation for upgrade.

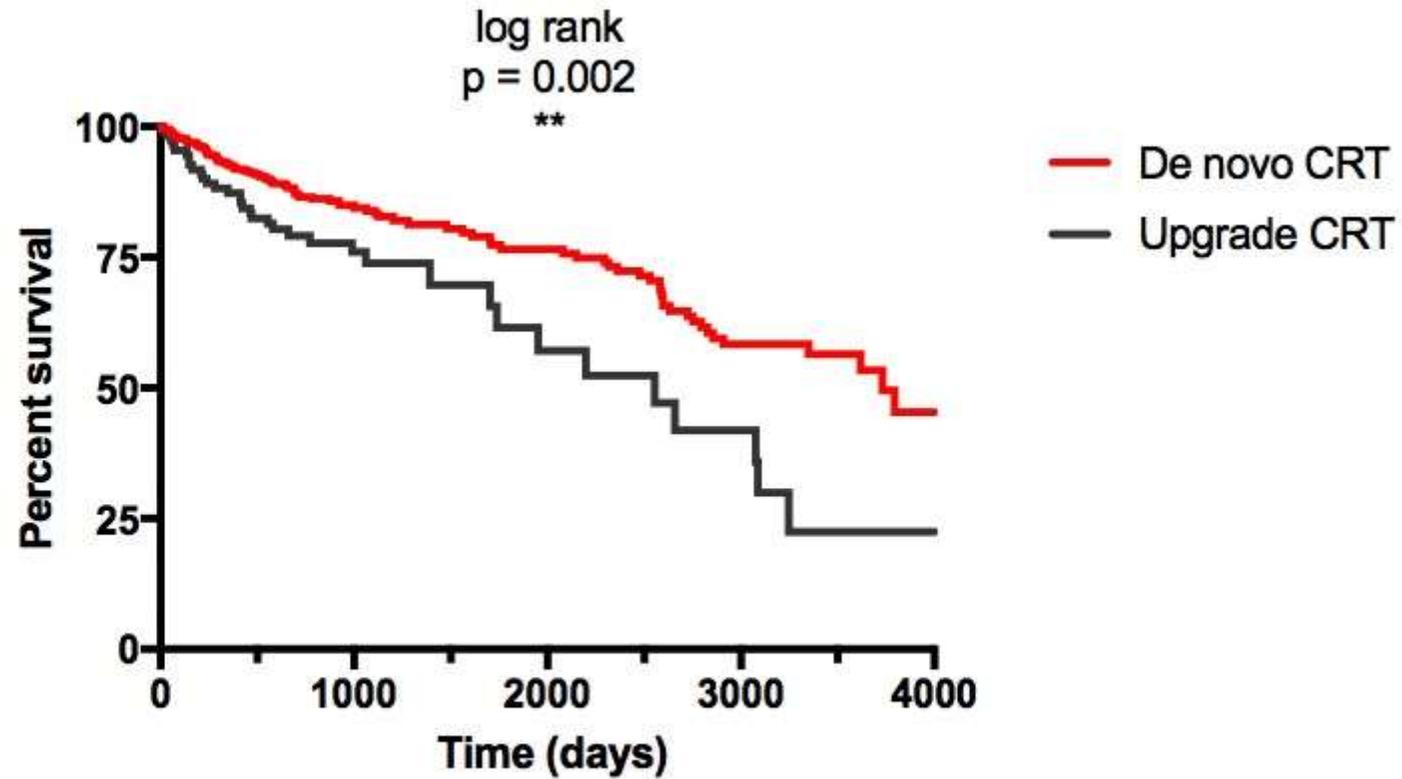
**Purpose:** We evaluated long-term outcomes of patients who were upgraded to CRT from a conventional PM or ICD and compared to de novo implantations in our high-volume, single-centre experience.

**Methods:** Symptomatic (NYHA II-IV class) heart failure patients with decreased ejection fraction (EF≤35%) and wide QRS (≥120 ms) were collected in a retrospective registry from 2003 to 2016. Primary endpoint was all-cause mortality, secondary endpoint was echocardiographic response. Kaplan-Meier and Cox regression analyses were used.

**Results:** From 110 upgraded and 431 de novo CRT implanted patients 131 reached (35 CRT-upgrade, 96 de novo CRT) the primary endpoint during the mean follow up time of 3.8 years. Patients in the upgrade CRT group were older (de novo 65 vs. upgrade 71 yrs; p<0.01), had higher serum creatinine level (de novo 103 vs. upgrade 122 umol/l; p<0.01) and atrial fibrillation (de novo 31% vs. upgrade 51%; p=0.002). Univariate analysis showed patients in the upgrade CRT group had 83% higher risk of all-cause mortality compared to de novo CRT patients (HR 1.83; 95% CI: 1.24–2.70; p=0.02). However multivariate analysis did not show a significant difference between patients in the upgrade vs. de novo CRT groups (HR 1.49; 95% CI: 0.93–2.38; p=0.10), after adjusting for relevant clinical covariates. When echocardiographic response was evaluated, improvement of left ventricular ejection fraction was similar in the two groups 8 months after the procedure (absolute LVEF increase in de novo 9% vs. upgrade 7%; p=0.16).

**Conclusions:** However patients referred for CRT upgrade shows a higher risk of all cause mortality, it is derived from comorbidities, while their clinical response seems similar compared to de novo CRT patients.

## De novo CRT vs. Upgrade CRT



### Patients at risk

de novo CRT	431	176	96	51	10
upgrade CRT	110	42	14	8	2