

OUTCOMES AFTER DE NOVO AND UPGRADE TO RESYNCHRONIZATION THERAPY: A PROPENSITY-SCORE MATCHED ANALYSIS

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BACKGROUND & AIM

Upgrade to resynchronization therapy (CRT) is common practice in Europe, despite discordant guideline recommendations.

Previous studies showed worse outcomes in upgraded patients.

We aimed to **compare clinical outcomes** in a cohort of patients receiving *de novo* or **upgrade** to CRT.

METHODS



295 CONSECUTIVE CRT PATIENTS (2007-2018)

CLINICAL + ECHO FOLLOW-UP

Upgrade vs. De novo

Kaplan-Meier Survival Analysis
Propensity-score matching (PSM)

CLINICAL RESPONSE: NYHA class improvement + Ø MACE during 1st year of FU

ECHO RESPONSE: Left ventricle end-systolic volume (LVESV) reduction of >15%

MACE: HF hospitalization (HFH) or all-cause mortality (ACM)

RESULTS

Mean age at implantation: **67±11** years

Male gender: 70.5%

CRT-D implants: 54.6%

Upgrade procedures: **56 (19.0%)** → 43 from PM; 12 from ICD

↳ Pacing-induced LV dysfunction (76.6%)
De novo LBBB (23.4%)

Propensity-score matching analysis
(106 matched pairs: 56 upgrade/50 *de novo*)

Endpoints were comparable between groups

MACE (Log Rank test, p=.573, HR 0.84, CI 95% 0.46-1.54, p=0.574)

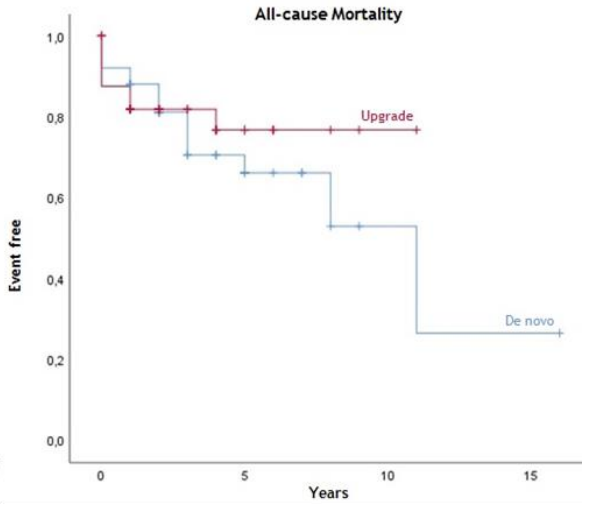
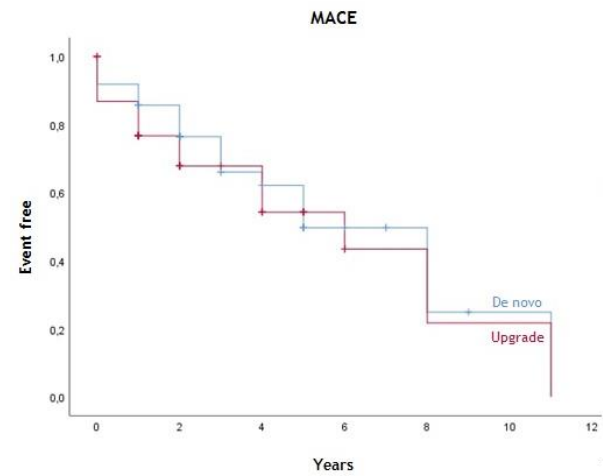
All-cause Mortality (Log Rank test, p=.555, HR 1.26, CI 95% 0.58-2.77, p=0.557)

	UPGRADE (n=56)	DE NOVO (n=239)	p
Age, years (Mean ± SD)	70.0 ± 9.6	66.4 ± 11.7	0.034
LVEF, % (Mean ± SD)	27.8 ± 6.9	28.2 ± 7.1	0.550
Baseline QRS, ms (Mean ± SD)	185.2 ± 25.1	163.3 ± 29.6	<0.01
Ischemic HF	32.1%	26.4%	0.487
Coronary disease	41.8%	26.2%	0.033
Atrial fibrillation	58.2%	26.7%	<0.001
Valve disease (moderate to severe)	42.9%	22.6%	0.003
Kidney disease	36.4%	18.7%	0.008
CRT-P device	71.4%	39.3%	<0.001

	UPGRADE (n=56)	DE NOVO (n=239)	p
RESPONSE RATE			
Clinical	74.4%	71.4%	0.765
Echo	72.2%	71.9%	0.970
ADVERSE EVENTS			
Lead failure or dislodgment	8.9%	6.7%	0.767
Device infection	1.8%	2.9%	0.986

Upgrade vs. De novo

Median FU time: **3 ± 5** years



CONCLUSIONS

Upgrade to CRT was comparable to *de novo* implantation in terms of clinical and echo response and adverse events.

All-cause mortality and **MACE** were similar between groups.