Abstracts i247

Rapid Fire Abstracts

416

LV only fusion pacing CRT without RV lead induces size and shape LA reverse remodelling

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Background: Adaptive CRT pacing induces significant left atrium (LA) reverse remodelling comparing to biventricular (BiV) pacing, although the algorithm delivers compulsory BiV pacing in heart rate over 100/min! Purpose: to assess LA remodelling in LV only pacing without RV lead in a real-life situation of permanent CRT fusion pacing.

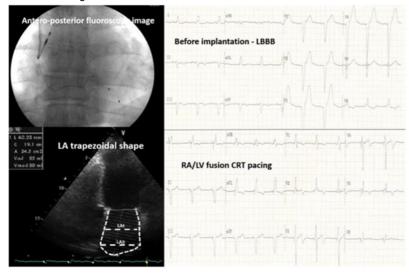
Methods: Prospective data were analysed from a cohort of patients with CRT-P indication implanted with right atrium/left ventricle (RA/LV) DDD pacing system. Complete follow-up at every 6 months included device interrogation, exercise test, transthoracic echocardiography (TE) and individualised drug optimisation. LA evaluation included: parasternal dimension (LAd), 4 chambers view: mid-LA transverse diameter (LAt), basal LA maximal transverse diameter (LAb); volume (LA vol) and shape assessment: trapezoidal LA shape was defined by LAt less than Lab, the reverse situation was considered ellipsoidal shape.

Results: 55 pts (30 males) with idiopathic DCM aged 62 ± 11 y.o. were included. Baseline characteristic: QRS 164 ± 18 ms; EF $27 \pm 5.2\%$; mitral regurgitation was severe in 22 pts, moderate in 27 pts and mild in 6 pts; 15 pts had type III diastolic dysfunction, 37 pts with type II diastolic dysfunction, 3 pts with type I diastolic dysfunction. Average follow-up was 42 ± 18 months: all patients were responders, EF increased at $37 \pm 7.9\%$; mitral regurgitation decreased in 38 pts (69%), diastolic profile improved in 36 pts (65%). Trapezoidal LA shape was documented in 31 (56%) patients. Atrial fibrillation was noted in 4 pts (7%) and cardioversion was needed. Non-sudden cardiac death occurred in 5 patients (9%), all deaths were noted in pts with severe LA vol, trapezoidal shape and type III diastolic dysfunction. Statistically significative LA reverse remodelling was noted regarding LA volume, but not shape.

Conclusions: RA/LV fusion CRT pacing was associated with important LA reverse remodelling and a low incidence of AF. Larger randomised studies are needed to validate these results and assess the role of LA shape remodelling in CRT.

	before RA/LV CRT-P	Follow-up 42 ± 18 months	p
LV EF, %, mean ± SD	27 ± 5.2	37 ± 7.9	< 0.0001
LA diameter (mm), mean \pm SD	50 ± 4.9	44 ± 2.8	< 0.0001
LA area (cm ²), mean \pm SD	24 ± 5.6	22 ± 0.7	0.0138
LA volume (ml), mean ± SD	104.9 ± 34	80 ± 28.2	0.0001

Abstract 416 Figure.



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