(PVI) to prevent initiation of AF is becoming an accepted therapy for AF. Patients with structural heart disease (SHD) are believed to differ from those with normal hearts (NHP) in the underlying pathophysiology of their AF. This notion has deterred the application of PVI in the group most at risk for AF. We prospectively followed 377 patients treated with PVI using intracardiac echocardiography (ICE) guided circular mapping of the pulmonary vein ostia, 183 of whom had SHD (left ventricular ejection fraction < 40%, significant aortic or mitral valve disease (VD) and history of cardiac surgery (CVS)) for a mean of 15±7 months. Any AF documented during this time period on predefined ambulatory monitoring protocol or based on symptoms was considered a recurrence. The patients with VD and CVS were older, had larger left atrial size, worse New York Heart Association functional class; more of them had chronic AF. Total procedure and fluoroscopy time were longer only in low EF patients. PVI success and complication rates were similar between SHD and NHP.

Conclusions: SHD does not affect outcomes of PVI for treatment of AF; its presence should not preclude ICE/circular mapping guided PVI.

A26. TECHNICAL ADVANCES IN CARDIAC PACING

A26-1 THE FRENCH AUTOCAPTURE TM REGISTER

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Aim of the study: The aim of this register was to evaluate the clinical performance of the Autocapture (AC), to measure the AC activation percentage and to collect long term AC threshold curves.

Method: This Autocapture register was conducted in 48 centres. 440 patients (270 M, 170 F, mean age 77,4±9 years old) were implanted with Autocapture pacemaker from St Jude Medical pacemaker. Indications were 49,8% AVB, 39,3% SSS and for 10,9% of patients in AF. 81% of patients underwent a primo-implantation, and for 19% of them, it was a replacement. 69,1% of patients were implanted with a dual chamber pacemaker. Measurements were performed at implant and at 1 month follow-up.

The data collected were pacing mode, lead impedance, threshold, sensing, Evoked response (ER) test, AutoCapture activation rate.

Results: According to the ER test results the AC could have been activated in 97% of cases, while in the others the ER test did not allow AC activation (41% were replacement). In total AC was activated for 427 patients.

The mean Evoked Response (ER) was 11.8±6.67mV; the polarisation value was 0.84±0.74 mV.

The mean output amplitude was 1,24±0,78V ranging from 0.5 to 4V; the median output amplitude was 0,88V and the most common used amplitude was 0.875 V.

	Biotronik	Ela Medical	Guidant	Medtronic	St Jude Medical	Vitatron
Quantity	9	46	17	52	298	8
Mean ER (mV)	9.12±3,6	10,58±7,04	10,13±4,97	13.1±7.37	12.08±6.77	12.04±3.36
Polarization (mV)	0.72±0,0,29	1.02±0,77	1.30±1,19	0.85±0.49	0.77±0.72	1.45±0.60
AC activation rate %	100%	93%	88%	100%	98%	100%

Conclusion: The AC was activated in the majority of patients (97%). Moreover, for 50% of patients the output amplitude was less than 0,9V at one month. Therefore, if AC is maintained an important pacer longevity can be expected.

A26-2 RIGHT VENTRICULAR SEPTAL PACING - IS IT PRACTICAL AND SAFE FOR ALL PATIENTS?

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Aim: We have shown right ventricular septal (RVS) pacing to be safe and practical in patients with structurally normal hearts. This study aimed to assess pacing the RVS compared with apical (RVA) lead placement in unselected patients requiring a dual chamber DDD/R or single chamber VVIR pacemaker for 2^0 or 3^0 atrioventricular block.

Methods: Fifty eight patients (36 male) were implanted with either a DDD/R or VVIR pacemaker, randomised to receive either RVA or RVS lead placement. In the DDD/R group (n = 48), 20 were paced at RVA, 28 at RVS; in the VVIR group (n = 10), 6 were randomised to RVA, 4 to RVS. Implant electrical data, procedure and fluoroscopy times, and complications were recorded. Threshold (volts @ 0.5msec), impedance and complication data were collected at 24 hours and 1 month post implant.

Results: There were no implant complications, ventricular lead displacements or failures up to 1 month in the DDD/R group. In the VVIR group, 1 patient randomised to RVA pacing was paced at the RVS due to an unstable apical position. Two patients from the DDD/R RVA group required atrial electrode repositioning. Two RVS patients failed to complete 1 month of follow up.

		DDD/R		VVIR	
		RVA	RVS	RVA	RVS
Implant	Procedure time (min)	62.0±21.7	62.6±28.2	53.3±18.1	37.5±17.1
	Fluroscopy (min)	3.4±1.5	6.5±5.1*	3.6±4.0	3.0±3.4
	Threshold (V)	0.40±0.18	0.61±0.20*	0.57±0.41	0.60±0.14
	Impedence (Ω)	741±188	799±143	707±156	851±186
24 hours	Threshold (V)	0.46±0.10	0.53±0.10*	0.70±0.40	0.65±0.20
	Impedence (Ω)	818±131	754±144	641±73.6	812±188
1 month	Threshold (V)	0.67±0.51	0.75±0.53	0.90±0.56	0.71±0.23
	Impedence (Ω)	774±183	744±145	658±97	866±153 *

Data are mean ±SD; *p<0.05.

Conclusion: RVS pacing is safe and practical for unselected patients but fluoroscopy (but not implant) times are slightly longer, although well within acceptable limits. These times may, however, improve with greater experience, newer leads and implant systems.

A26-3 TIP DESIGN IN A NEW STEROID-ELUTION PACING LEAD INFLUENCES VENTRICULAR ELECTRICAL PARAMETER VARIATIONS IN DDD PACEMAKER IMPLANTED PATIENTS

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Aim: Capture Management (CM) is a Medtronic K700 and K900 pacemakers (PM) feature that automatically measures ventricular pacing threshold at predefined time intervals by automatically detecting the evoked response after a pacing stimulus. Aim of this study was to evaluate the influence of ventricular lead model on pacing threshold, impedance and R wave sensing variations in PM implanted patients (Pts).

Methods: 117 Pts (59% M, mean age 69±20) were implanted with a K700 or K900 PM. Ventricular lead was Medtronic Capsure Sense 4074 in 53% of Pts, Medtronic Capsure SP Novus 4092 in 31% of Pts, Medtronic Capsure Z Novus 5054 in 9% of Pts and Medtronic Capsure Fix Novus 5076 in 7% of Pts. CM was programmed to automatically measure ventricular threshold every two hours. Mean follow-up (f/u) was 6±7 months (range 1-24).**Results:** In the table below the average variations of the electrical parameters as a function of different lead models are shown:

	Sense	Fix Novus	Z Novus	SP Novus
Threshold average variation (%)	15.9±10.9	25.3±23.4	13.2±17.1	25.1±24.5
R wave average variation (%)	7.2±7.3	15.6±8.4	24.2±0.7*	19.6±9.6*
Impedance average variation (%)	13.6±17.3	25.3±23.4	34.2±11.1†	28.5±8.2†

* p<0.01 vs Sense; † p<0.05 vs Sense.

Conclusions: Lead model can influence the stability of electrical parameters in PM implanted Pts. Pts implanted with Capsure Sense lead model had significantly more stable R wave and impedance values than Pts implanted with Capsure Z Novus and Capsure SP Novus. This is probably due to the new design of the Titanium Nitride lead tip of Capsure Sense that increases the contact with the myocardial wall. There was no significant difference between the four lead models on threshold variation. There was not significant difference between active (Capsure Fix Novus) and passive-fixation leads on all the electrical parameters.