	CHF/Cardiac	nonCHF/Cardiac	noncardiac
N	30	26	90
Age	63 (49.71)	67 (60.72)	63 (29.71)
Sex (% male)	37	58	60
Initial Rhythm N (%)			
VT/VF	7 (25)	11 (44)	24 (27)
Asystole	6 (21.4)	6 (24)	33 (37.5)
Bradycardia	5 (17.9)	2 (8)	6 (6.8)
EMD	6 (21.4)	1 (4)	13 (14.8)
Other	4 (14.3)	5 (20)	12 (13.6)
ROSC	21 (70)	13 (50)	51 (56.7)
Survival to D/C	1 (3.3)	4 (15.4)	2 (2.2)

Patients with nonCHF/Cardiac disease had a higher ROSC than patients with CHF and noncardiac diseases ($p = 0.016$). In summary, patients with CHF often experience cardiopulmonary arrest with bradycardic or EMD arrests. Although patients with CHF are resuscitated with a high degree of success their in-hospital survival was low. Furthermore, the high rate of bradycardic and EMD arrests may explain the low in-hospital survival rates.

959-107 Outcome of In-hospital Cardiopulmonary Resuscitation

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Cerebral and overall performance after successful resuscitation is an important measure of its success. To evaluate resuscitation attempts in adults (age ≥ 18 years) by the 24-hrs resuscitation team in our hospital (1,032 beds; 27,500 admissions/years), we prospectively collected data from resuscitation forms and retrospectively from medical records. Performance was assessed retrospectively by means of the Cerebral and Overall Performance Categories (CPC/OPC).

Results: A total of 1205 calls were received from June 1988 up to January 1994 (the emergency room and general wards always call upon the team, CCU/ICU only when intubation is required). 717/1205 calls were confirmed arrests in 675 adults (mean age 58, 43% >70 years). Resuscitation was not attempted in 10 arrests. Return of spontaneous circulation occurred in 347/717 arrests (49%), followed by transfer to the ICU or CCU. Of the 347 initial survivors 93 (27%) died within 24 hrs, and another 138 (40%) died later during their hospital stay. 101 (15%) pts (38% > 70 years) were discharged from the hospital alive. VF/VT as initial rhythm was present in 60 (60%) survivors and ischaemic heart disease (ICD 410–414) was diagnosed in 40 (40%) survivors.

Outcome performance was assessed at the time of discharge. Good outcome: CPC1, 90 pts (90%); OPC1, 78 (78%); Moderate disabilities: CPC2, 4 pts (4%); OPC2, 14 pts (14%); Severely disabled/vegetative state: CPC/OPC3-4, 7 pts (7%). A total of 36 pts (36%) died after discharge, of which 19 (53%) died within the first year.

Conclusion: Survivors after of in-hospital circulatory arrest have a good prognosis in terms of cerebral and overall performance, but long term successes are limited.

960 Implantable Cardioverter — Defibrillators

Tuesday, March 21, 1995, Noon–2:00 p.m.
Ernest N. Morial Convention Center, Hall E
Presentation Hour: 1:00 p.m.–2:00 p.m.

960-83 A Prospective Study of Tested versus Nontested Antitachycardia Pacing in Implantable Cardioverter-Defibrillators

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The value of testing antitachycardia pacing (ATP) for the termination of ventricular tachycardias (VT) in implantable defibrillators was evaluated in a prospective trial. Pre-discharge testing of antitachycardia pacing was attempted in 66 consecutive patients (pts) with non-thoracotomy third-generation implantable cardioverter-defibrillators (ICD). VT's could be induced in 18 pts (group A: 14 CAD, 3 DCM, 1 other) and were terminated by ATP at the pre-discharge testing at least twice. In 48 pts (group B: 30 CAD, 9 DCM, 9 others) the effectivity of ATP could not be tested due to non-inducible VT. ATP was programmed in both groups as an autodecremental ramp with 81% of the tachycardia cycle length and up to 4 sequences with 8 to 11 stimuli. The mean follow-up was 10 months.

Results:	group A	group B
ATP-tested	yes	no
patients (n)	18	48
VT episodes	532	491
ATP-termination	468	430
ATP unsuccessfull	29	41
VT-acceleration	35 (6.6%)	20 (4.7%)
ATP-success rate	88%	88%

Conclusion: The autodecremental ramp is a safe and effective antitachycardia pacing mode for terminating spontaneous ventricular tachycardias in 88% regardless of the result of the pre-discharge test.

960-84 Ramdomized Prospective Comparison of Four Burst Pacing Algorithms for Spontaneous Ventricular Tachycardia

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Burst antitachycardia pacing (ATP) is higly efficacious for termination of monomorphic ventricular tachycardia (MVT). Since several pacing sequences are usually programmed as a single therapy, optimal programming is presently unknown. In 40 patients (P) with MVT and a 3rd generation AICD, 4 burst ATP were prospectively compared (as a first single ATP) during follow-up in a randomized design crossing over every 2–3 months. Burst ATP modes (A to D) were defined by pacing cycle length (PCL, as % of VTCL) and number of beats (No B) (Table). A second ATP zone was programmed in a non selected way in all patients.

Results (Table): 374 episodes (317 considered MVT) received ATP therapies in 23 patients. RR intervals could be retrieved for MVT-CL analysis in 168 episodes. Succes rate of combined first (randomized) and second (non selected) therapies was 92%. Acceleration rate estimation was 2%.

Therapy	A	B	C	D	global	p
PCL/No B	91/7	81/7	91/15	81/15		
All VT	68%	46%	85%	61%	69%	<0.001
VTCL < 350*	82%	14%	44%	38%	47%	0.03
VTCL > 350°	73%	100%	91%	86%	90%	ns

* CL < 350: group of MVT with CL < 350 ms. ° CL > 350: MVT with CL > 350 ms

Conclusions: 1. Efficacy of the tested burst pacing modes differs significantly, at least in fast VT. 2. Contrary to what could be expected, "less agressive" bursts seem to be more efficacious, even in fast VT.

960-85 Implantation of a Single-Lead Unipolar Transvenous Cardioverter/Defibrillatior (ICD) Under Local Anesthesia

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The purpose of this study was to prospectively evaluate single-lead unipolar transvenous ICD implantation under local anesthesia and defibrillator threshold testing under mild sedation.

In 12 consecutive patients (mean age, 61 ± 10 years) transvenous ICD implantation was performed (9 patients had ischemic heart disease, 3 patients dilated cardiomyopathy). The presenting arrhythmia was ventricular fibrillation in 4 patients, and monomorphic ventricular tachycardia in 8 patients. Mean LVEF was 26 ± 11%. A single-lead unipolar transvenous ICD with biphasic defibrillation pulse was implanted subpectorally in all patients under local anesthesia with 1% lidocaine. During defibrillation threshold (DFT) testing sedation was applied with 11.5 ± 5.1 mg (0.14 ± 0.05 mg/kg) midazolam. For DFT determination 5.8 ± 1.3 episodes of ventricular fibrillation (mean total ventricular fibrillation time 52.4 ± 14.7 seconds) were induced. Mean DFT was 12.8 ± 4.3 J, mean duration of the implantation procedure was 58 ± 13 minutes. Heart rate, mean arterial blood pressure, and arterial oxygen saturation were not significantly different before and after DFT determination. One patient had moderate pain during DFT testing, and 3 patients had mild pain during the surgical procedure. Symptoms during the procedure were evaluated using a standardized questionnaire. Severe feeling of panic and surprise, and discomfort of moderate degree was reported by 2 patients. There were no complications. Hospital length of stay: all patients were discharged on the second postoperative day. Postimplant ICD testing was performed successfully without sedation 3.5 ± 1.4 days after ICD implantation, in 6 patients as an outpatient procedure.

Conclusions: Single-lead unipolar transvenous ICD systems can safely be implanted under local anesthesia and mild sedation during defibrillation threshold testing. The procedure is well tolerated.