Table

	Controls	Hypertensives	p (t-test)	p (ANCOVA)
SBP (mmHg)	115 ± 10	157 ± 23	< 0.001	–
Mean RR (ms)	969 ± 106	924 ± 139	0.065	–
BRS-SR (ms/mmHg)	12.4 ± 8.6	8.1 ± 5.4	0.005	0.73
BRS-CR (ms/mmHg)	19.1 ± 18.0	12.8 ± 6.6	0.026	0.78

Conclusion: Reduced BRS in essential hypertensives predominantly reflects the elevation of blood pressure and is consequently unlikely to provide independent discriminative and/or predictive information.

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Balloon valvuloplasty has a favorable effect on transmural dispersion of repolarization in patients with symptomatic aortic stenosis

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Background: Patients with untreated aortic stenosis (AS) are at an increased risk for developing serious ventricular arrhythmias and sudden cardiac death. It has been suggested that an increased transmural dispersion of repolarization (TDR), represented by the interval from the peak to the end of the T-wave (Tpe) on the surface electrocardiogram (ECG), may underlie electrical instability in AS.
Objective: To study changes in TDR following balloon aortic valvuloplasty (BAV).
Methods: Between 2001 and 2003, a total of 58 patients underwent BAV at our institution for symptomatic AS. We selected 20 patients (11 male, 9 female, age 79.5 ± 5.5 years) for this study; the rest were excluded on the basis of revascularization at the time of BAV, presence of atrial fibrillation or a ventricular paced rhythm, or lack of availability of a follow-up echocardiogram. Two independent investigators analyzed the pre- and (1 to 6 month) post-procedure ECGs and echocardiograms. Tpe intervals were recorded from the surface ECG using the mean of 3 consecutive cycles in leads V2 - V4.
Results: See table.

Table

n = 20	AS: Pre-BAV	AS: Post-BAV	P-value
Heart rate, bpm	75 ± 17	75 ± 16	NS
Aortic Valve Area, cm^2	0.6 ± 0.2	1.1 ± 0.5	<0.005
Mean gradient, mmHg	50 ± 23	23 ± 14	<0.005
EF, %	46 ± 19	49 ± 18	NS
LV mass index, g/m^2	109 ± 26	113 ± 24	NS
QRS, ms	119 ± 31	120 ± 32	NS
QTc, ms	452 ± 39	442 ± 32	NS
Tpe, ms	106 ± 25	95 ± 26	<0.005

Echocardiographic and ECG measurements before and after BAV. (All values are mean ± SD).

Conclusions: BAV reduces TDR in patients with AS. Our study shows that regression of TDR following BAV takes place independent of changes in LV mass. Further investigations may elucidate the clinical implications of this finding.

TUESDAY, 28 JUNE 2005, 8:30–12:30 **POSTER HALL**

Special considerations in cardiac resynchronisation therapy

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Electrode implantation technique for biventricular pacemaker and ICD. Effective and safe access via the cephalic vein for all three leads

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Objective: Biventricular (BIV) pacing proved to be highly beneficial for patients with congestive heart failure. In this study we investigated a modified implantation procedure in order to decrease the complication rate such as a subclavicular crush syndrome. Therefore using the cephalic vein (CV) as the primary access for all 3 leads in patients with sinus rhythm was objected.
Methods: for implantation a cephalic venous cut down was performed in 44 pts. A guide wire was introduced in the CV, than an introducer set (9F) was advanced over the wire and after extracting the wire the right ventricular (RV) lead was implanted. Before removing the introducer sheet a new guide wire was pushed beside the RV electrode through the introducer set. Than the sheet could be removed and a new introducer set was advanced over the wire thereby watching out for solid position of the implanted RV electrode. Then the LV lead could be advanced and implanted. The same procedure was performed for the atrial lead. Only in case of impossible CV preparation a subclavian vein puncture was performed.
Results: over a period of one year 44 patients were evaluated. The LV lead positioning was successful in 42 pts. (95,5%). 37 pts. received a BIV-ICD and 5 pts. a BIV pacemaker. 92% of the implanted LV leads could be positioned in a posterolateral vein, the others in a posterior or anterior vein. 3 pts. had atrial fibrillation but received also an atrial lead, one patient needed a second operation for an atrial lead because of conversion into SR. In 34 patients (81%) a primary access via the CV was possible. In these patients there was no severe bleeding or pneumothorax. In 2 patients only two electrodes could be introduced via the CV, the third had to be placed via an additional subclavian vein puncture. In 6 patients the CV cut down failed with a need for subclavian vein access. In this group 2 patients had a pneumothorax, one needed to be drained.
The average operation time was 140±22 min, with a fluoroscopy time of 20,3±10,5 min. As general complications there were 2 cases of microdislocation with a high LV pacing threshold (5V/1ms), six dissections in the coronary vein system (still with implantation success). One patient died after 30 days after implantation due to severe heart failure. There was no lead dislodgement of the LV lead, one of the atrial lead, no pericardial effusion or bleeding complication.
Conclusion: this study demonstrates that the electrode implantation of all three leads via the cephalic vein is a feasible, highly successful and safe procedure in biventricular systems (81%).

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Cardiac resynchronization therapy: predictive factors of unsuccessful implant of left ventricular lead

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Background and Objective: Coronary sinus (CS) access and pacing is not achieved in about 10% of patients (pts) in whom the cardiac