Results: During a mean follow-up of 4.8 years, there were 307 CV deaths. A survival plot showed a significant separation between those subjects with rightward, leftward, and normal axes. After adjusting for age and heart rate, left and right axis deviation had hazard ratios (HR) of 1.6 (CI 1.2-2.0, p = 0.001) and 2.9 (CI 2.1-4.1, p < 0.001), respectively. Of the 1,069 subjects with complete medical records, 51 ultimately required a PM. Abnormal axis deviation was significantly associated with eventual PM implantation (HR 2.9, CI 1.6-5.5). Among the 1,574 subjects without atrial fibrillation, an AV delay was significantly associated with both CV death (HR 1.4, CI 1.1-1.9) and PM implantation (HR 2.5, CI 1.3-4.6).
Conclusion: In patients with RBBB, axis deviation and AV conduction delay are associated with an increased risk of CV death and/or PM implantation.

1072-211 Independent Predictive Accuracy of Classical Electrocardiographic Criteria in the Diagnosis of Paroxysmal Junctional Tachycardias in Patients Without Preexcitation

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Background: In patients (P) without preexcitation, the differential diagnosis of paroxysmal junctional tachycardias mainly consists of atrioventricular nodal reentry tachycardias (AVNRT) and orthodromic reciprocating tachycardias (ORT) through a concealed accessory pathway. We prospectively assessed the independent accuracy of classical electrocardiographic (ECG) criteria in that diagnosis.
Methods: We included 240 consecutive P (153 females; 46±18 yrs) who underwent an electrophysiologic (EP) study for paroxysmal, regular, narrow-QRS complex tachycardias without preexcitation in sinus rhythm. Atrial tachycardias were excluded. The ECG recordings during tachycardia were reviewed by 2 independent observers for the presence of the following criteria: a) pseudo r´ deflection in V1 and/or pseudo s waves in inferior leads, b) P wave separate from the QRS complex, c) QRS alternans, and d) ST segment depression (≥2 mm) and/or T wave inversion. The predictive accuracy of these ECG features for the diagnosis of AVNRT versus ORT was evaluated through logistic regression.
Results: EP study demonstrates AVNTR in 158 P and ORT in 82 P. The prevalence of each ECG criterion for AVNRT P was: 44%, 24%, 10%, and 36%, respectively. Similarly, these prevalences for ORT were: 5%, 65%, 23%, and 57%, respectively (all, p<0.01). The presence of pseudo r´ deflection in V1 (adjusted odds ratio -OR-: 14, Wald Chi-square: 22; p=0.0001), a P wave separate from the QRS (OR: 0.20, Wald Chi-square: 24; p=0.0001), and QRS alternans (OR: 0.29; Wald Chi-square: 7; p=0.008) were selected by stepwise multiple logistic regression analysis as independent predictors for the diagnosis of AVNTR (vs ORT). Sensitivity and specificity of the logistic model for the detection of AVNRT were 81% and 71%, respectively (overall correct classification rate: 78%).
Conclusion: In P without preexcitation, nearly 20% of paroxysmal junctional tachycardias may be incorrectly classified on the basis of a multivariate analysis of classical ECG criteria. The presence of repolarization changes during tachycardia do not maintain significant independent predictive power for the differential diagnosis of the tachycardia mechanism in these P.

1072-212 The Relationship of Poor R Wave Progression in Precordial Leads on 12-Lead Electrocardiogram and Anterior Wall Motion Abnormality on Echocardiography

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This retrospective observational study was used to evaluate the relationship of poor R wave progression (PRWP) on electrocardiograghy (ECG) and anterior wall motion abnormality (AWA) on echocardiography.Subjects with PRWP on ECG were identified sequentially between Nov 2000 and Feb 2001 at the Royal University Hospital, Saskatoon District Health (total: 9,762). These subjects were then cross-referenced with the RUH Echocardiography database. Echocardiograms with AWA were chosen if they were performed within a 6-month period following the ECG recording. A total sample size of 105 subjects met the inclusion/exclusion criteria for the study.
Univariate and multivariate analysis was performed using SPSS 10 software. The presence or absence of echocardiographic AWA was the dependent variable. Clinically relevant precordial lead markers and gender were the independent variables (RV1-6, SV1-6, R1, S1, combinations). Odds ratios (OR) and 95% confidence interval (CI) were computed using binary logistic regression.
Of the 105 subjects, 35 had echocardiographic criteria for AWA. Statistical modeling showed that the sum of leads RV234 (OR, 0.827; 95% CI, 0.728-0.939) and gender (OR, 0.361; 95% CI, 0.135-0.965) were significant main effects. The sum of RV234 was then stratified into tertiles to reveal a dose-response relationship. Subjects in the lower tertile (sum ≤ 4.0 mm) were 8.89 times as likely to have an AWA than those in the upper tertile (≥ 8.6 mm) (OR, 8.890; 95% CI, 2.527-31.274). Analysis by gender showed that the OR for men was 8.89 and 3.94 for females.
In conclusion, a value of ≤ 4.0 mm based on the sum of precordial leads RV234 can be used as a simple ECG marker for AWA.

1072-213 Ventricular Pauses During Atrial Fibrillation Predict Relapse After External Electrical Cardioversion: A Prospective Study

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Background: The clinical usefulness of external electrocardioversion (ECV) of atrial fibrillation (AF) is limited by the high frequency of AF recurrence. We investigated the use of ambulatory ECG monitoring in AF to predict early recurrence after ECV. ***Methods:*** RR interval variables during AF were obtained from 24 hours ECGs recorded before ECV on 119 patients (85 men, age 66.1 ± 10.0 years) with persistent AF. Two 24 hour ECG recordings were obtained from 27 patients to evaluate the reproducibility of RR variables. All patients were prospectively followed-up during ECV, one-week and one-month later. ***Results:*** Of the 119 patients, 16 (13%) failed ECV and 65 (55%) were in AF at one-week and 81 (68%) at one-month post ECV. There was no significant difference between outcome groups in clinical variables. Repeated 24 hours ECGs confirmed the reproducibility of the maximum RR (RR-max) and the minimum RR intervals during AF. The RR-max was longer in the recurrent AF group than in those who maintained sinus rhythm at one-week and one-month. This was more significant when the RR-max occurred during the day (one-week: 2549 ± 491 vs. 2007 ± 522 ms; one-month: 2555 ± 501 vs. 1890 ± 425 ms; p=0.005, p<0.001, respectively). Compared to patients in sinus rhythm at one-month, in the AF group there were more patients with RR-max ≥ 2800 ms (31 vs. 11% p= 0.021) and more patients where RR-max accrued in the day with mean duration of the next 9 longest RR intervals ≥ 2000 ms (72 vs.27% p=0.015). Multivariate logistical regression analysis showed these two RR-max markers were independent predictors from age ≥ 60 years old, abnormal left atrial size and AFduration ≥ 1 year. Average heart rate over 24 hours was significantly lower by day and night in the patients with these ECG markers than in those who without, but lower average heart rate was not predictive of AF recurrence. These results were not influenced by amiodarone. ***Conclusion***: Ventricular pauses during AF predict relapse after ECV.

1072-214 Ambulatory Blood Pressure Predicts Left Ventricular Hypertrophy in Prehypertensive Women

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Background: The JNC 7 report points to elevated cardiovascular (CV) risk even at systolic blood pressure (SBP) levels of 120-139 mm Hg or diastolic (DBP) of 80-89 mm Hg, classified as pre-hypertension. Left ventricular hypertrophy (LVH) in an independent CV risk factor and it is more closely related to 24-hour BP than office BP. To determine if prehypertensives have elevated 24-hour BP and increased left ventricular mass (LVM), we assessed 24-hour BP and cardiac parameters in pre-hypertensive women.
Methods: Two-hundred twenty, pre-hypertensive women (age=54±10 yrs) with resing BP=130/78 mm Hg and free of overt heart disease were consented to undergo an echocardiographic assessment and 24-hour. LVH was considered as LVM index ≥105 g/m^2.
Results: The prevalence of LVH in these women was 54.5%. Significant correlations were noted between LVM index, 24-hour, daytime and nighttime BP. Age, and 24-hour BP were significantly higher in women with LVH versus those without. Multiple logistic regression analysis revealed that SBP, nighttime DBP, age, and BMI were the strongest predictors of LVH (table). Cut-off analysis revealed that the daytime SBP threshold for LVH was 145 mm Hg. There was a 4-fold increase in the likelihood of having LVH for every 10 mm Hg increase in daytime SBP above this threshold.
Conclusions: Daytime SBP predicts LVH in prehypertensive women. The threshold for LVH is ≥145 mm Hg. The likelihood of having LVH increases by 4-fold for every 10 mm Hg increase above this threshold.

Variables	Beta	SE	Wald	Exp(B)	95% CI	P
Intercept	-25.3	3.6	-	-	-	-
Day SBP	0.14	0.029	23.5	1.15	1.1-1.2	0.000
Night DBP	0.08	0.02	9.8	1.08	1.0-1.1	0.002
Age	0.06	0.02	8.5	1.06	1.02-1.1	0.004
BMI	-0.12	0.05	4.9	0.88	0.8-0.9	0.02

1072-215 Depressive Symptoms Are Associated With Reduced Heart Rate Variability in Individuals Without Coronary Artery Disease

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Depression is a risk factor for CAD, but the mechanisms remain poorly understood. Decreased heart rate variability (HRV), a measure of autonomic dysfunction and a risk factor for CAD mortality, has been associated with depression in cardiac patients, but few controlled studies have been conducted in persons free of CAD. We performed power spectral analysis on 24-hour ambulatory ECGs in 50 male twin pairs aged 47 to 57 years, free of symptomatic CAD, selected from the Vietnam Era Twins Registry as as part of an ongoing study of depression and CAD. Log-normalized ULF, VLF, LF and HF power were calculated. Current levels of depressive symptoms were measured with the Beck Depression Inventory (BDI) and lifetime history of major depression with the Structured Clinical Interview for Psychiatry Disorders (SCID). Mixed-effect models were used to compare each twin with his brother. All HRV parameters except HF were significantly associated