center, both an abnormal PCA ratio (x^2=7.3, p=0.007) and TLA (x^2=7.5, p=0.006) were significant predictors of CV mortality. However, adding TLA to the combination of clinical variables and the PCA ratio provided only minimal additional prognostic value to the overall model (overall x^2=87.5, p<0.001). In contrast, overall an abnormal QTc (x^2=49.5, p<0.001) and TWR (x^2=49.5, p<0.001) remained strong predictors of all-cause mortality in multivariate analyses with an increase in overall x^2=291.5 to 330.3.

Conclusions: Novel descriptors of heterogeneity of repolarization provide additional prognostic information beyond QTc and PCA ratio for prediction of all-cause and CV mortality.

1115-7

Distinction Between Ventricular Tachycardia/ Ventricular Fibrillation Patients and Patients With Uncomplicated Post-Infarction Follow-Up: Comparison of Noninvasive Wedensky Modulation and Ejection Fraction

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Background: Subthreshold stimulation without capture reduces the stimulation threshold and changes the action potential of subsequent suprathreshold stimulation (Wedensky modulation). Wedensky modulation may be noninvasively induced and quantified by surface residual QRS (WSR) of waveform decomposition of modulated and reference ECGs.

Methods: This study compared the power of left ventricular ejection fraction (EF) and of WSR for the separation of patients with an uncomplicated follow-up (>6 months) after myocardial infarction (MI) and patients with spontaneous symptomatic ventricular tachycardia and ischemic heart disease (VT/VF). In total, 25 VT/VF patients (64±8 years, 25 men) and 46 MI patients (62±8 years, 34 men) were subjected to a 2 ms noninvasive transthoracic modulation of 5 and 20 mA delivered 20 ms after R wave; i.e. synchronously with R wave peak. For each subject, EF and WSR within 10 ms window centered around the modulation (WSR values C5 and C20 corresponding to 5, and 20 mA modulation, resp.) were evaluated. Multiple backward stepwise regression analysis was used to assess the relative performance of WSR parameters and EF. Receiver operator characteristics (ROC) were calculated and the area under the ROC curve was used to compare predic-

Results: All parameters significantly differentiated VT/VF patients from MI patients: EF - 38±1±4.9 for VT/VF, 53±8±11.6 for MI, p<0.01; C5 - 49±6±89.5 for VT/VF, 112±5±69.7 for MI, p<0.01; C20 - 58.0±3±70.7 for VT/VF, 118±1±760.8 for MI, p<0.01. Both WSR parameters survived the multiple regression analysis against EF with p-values of 0.001 for EF, 0.003 for C5, and p-values of 0.005 for EF, 0.02 for C20. The areas under the univariate ROC curves were 79.9% for EF, 82.1% for C5, and 74.7% for C20. The multivariate ROC curve concerning EF and C5 resulted in the area of 89.0%.

Conclusion: Noninvasive Wedensky modulation separates VT/VF patients from uncomplicated post-MI patients independently of EF. Receiver operator characteristics (ROC) were calculated and the area under the ROC curve was used to compare predictive power.

1115-8

Valsartan Improves Early Morning and 24-Hour Heart Rate Variability

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Background: Diurnal variation in the autonomic nervous system produces sympathetic oversensitivity in the early morning. Most sudden cardiac deaths occur at this time, due to arrhythmias associated with increased sympathetic tone. Heart failure (HF) patients have demonstrated blunting of heart rate variability (HRV), shown to be a strong independent predictor of sudden cardiac death. Valsartan treatment has shown benefit in HF. We therefore investigated if valsartan improves HRV via a mixed sympathetic/parasympathetic effect in patients with HF.

Methods: This was a prospective, open-label, blinded-endpoint trial, 56 patients (69% male, 31% female, age 68±12 years) with HF underwent HRV analysis (from 6-10 AM and 55±7 AM). Parameters were significantly improved over the 24-hour interval.

Conclusion: The improvements in HRV over 24 hours were thought to be predominantly due to a shortening in QTc and C5 modulation. These changes on QT dispersion in both adult and aged patients equally. Moreover, K_Tp channel mimics ischemic preconditioning in both adult and aged patients.

1115-9

The Effect of Ischemic Repolarization Is Preserved on QT Dispersion in Elderly Patients Undergoing Coronary Angioplasty

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Background: Previous reports on the protective effects of ischemic preconditioning are still controversial. We sought to investigate the effects on QT dispersion in patients with adult and aged patients undergoing coronary angioplasty. Moreover we examined the effect of pretreatment of nicorandil on QT dispersion to assess the hypothesis that opening of K_Tp channel will affect ischemic preconditioning in adult and aged patients.

Methods: Consecutive 40 patients who underwent balloon inflation at least twice during coronary angioplasty were randomly allocated to either nicorandil group (3mg/hr infusion intravenously) or placebo group, group based on their age, adult group (age>65 years) and aged group (age>65 years). 60-second coronary occlusions of the proximal two-thirds of left anterior descending coronary artery were performed with 5-minute intervals. Results: 1. Baseline QT dispersion was similar in both groups. 2. Nicorandil administration significantly protected the increase in QT dispersion in both adult and aged groups. 3. Similar changes on QT dispersion were observed in both adult and aged groups equally. Moreover, K_Tp channel mimics ischemic preconditioning in both adult and aged patients.

1115-10

Amiodarone Increases Transmural Heterogeneity of Repolarization in Patients With Cardiac Death

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Background: A prolongation of the descending part of the T wave (Tpeak) was suggested to reflect increased transmural repolarisation heterogeneity and arrhythmogen-icity. Amiodarone (A) is known to prolong QT interval in a homogeneous way. Failure to do so could increase arrhythmic risk. We therefore investigated A1 intervals in survivors of cardiac death (CD) in A and placebo (P) treated post-myocardial infarction patients.

Methods: Amiodarone or placebo were randomly allocated to 866 EMAT patients (462 A, 404 P) obtained 1 month after randomisation, QT and QTpeak intervals were measured automatically by the Pathfinder software (Reynolds Med Tech). All intervals were averaged over 10ms RR intervals. The areas under the univariate ROC curves were 79.9% for EF, 82.1% for C5, and 74.7% for C20. The multivariate ROC curve concerning EF and C5 resulted in the area of 89.0%.

Results: QT intervals in the A group were longer than in the P group at all RR intervals.


Conclusion: 60-second coronary occlusion was effective for ischemic preconditioning in view of QT dispersion in both adult and aged patients equally. Moreover, K_Tp channel mimics ischemic preconditioning in both adult and aged patients.