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**Introduction:** We noted changes in electrical activity parameters: shortening of MEG duration for few minutes and prolongation in continuing heart rate to 0.47 ± 0.02 s. During ischemia ST segment changes were more expressed. When coronary artery was occluded we noted significant changes in ST and T amplitudes. ST and T amplitudes were elevated till 2.6 times from initial values (235±6±3.49, 6 ± 601.0 ± 179.8 µV, p < 0.001). During reperfusion all changes return to initial values. Using Kullback information statistics method we selected three basis function coefficients most deviating in regard to the ischemic signal changes and less deviating in "stable conditions".

**Conclusions:** ST and T amplitude changes of MEG we found as more informative parameter for evaluation and presentation of inescapable ischemic injury during "off-pump" cardiac surgery.

**Kaplan - Lowe transform could be a powerful tool for noise cancellation in the epicardial EG registered during heart operations.**

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**P-214 TRANSMURAL DISPERSION OF REPOLARIZATION INCREASES IN ATHLETES UNDER HYPERTENSIVE STRESS**

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**Introduction:** Left ventricular hypertrophy is associated with an increased dispersion of repolarization. Whether this holds for exercise-induced physiological hypertrophy is still debated. Traditionally, dispersion of repolarization is assessed by QT dispersion between leads, but this concept has a weak theoretical basis. More recently, the T- apex-Tend of the precordial ECG leads was introduced as a measure of transmural dispersion of repolarization. In our previous study handgrip, an hypertensive stressor, was shown to promote transmural dispersion in the precordial leads. In the current study we investigated if hypertensive stress could unmask a relation between the T-peak-Tend interval in ECG-lead V5 and the indexed left ventricular mass.

**Methods and Results:** In 11 elite marathon skaters and 25 healthy male subjects, we studied the left ventricular mass and VO2 max were significantly higher in athletes than controls. Left ventricular mass (LVM = 111±18.6, range 64.9 - 149.1 g/m²) varied widely, and was highly correlated with VO2 max (LVM = 0.69 * VO2 max + 7.6; r = 0.57, P < 0.01). ECG measurements were done at the end of a 3-minute period of isometric handgrip without any evidence of hypertension or cardiomyopathy. Our study favors the concept that under hypertensive stress physiological hypertrophy increases transmural dispersion of refractoriness.

**Conclusion:** After acute myocardial infarction increased levels of CRP are associated with attenuated HRV, suggesting a role of inflammation in cardiac autonomic balance.

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**P-216 INCREASED HETEROGENEITY OF VENTRICULAR REPOLARIZATION IN FIRST DEGREE RELATIVES OF PATIENTS WITH ARRHYTHMOCARDIOGRAPHIC VENTRICULAR CARDIOMYOPATHY**

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**Background:** Heart rate variability (HRV), has been used as a marker of autonomic activity after myocardial infarction. The acute phase reactant C-reactive protein (CRP), is elevated after acute myocardial infarction.

**Aims:** We investigated the relation between HRV and CRP levels after acute myocardial infarction.

**Methods:** This is a prospective study of 98 patients with acute ST-segment elevation myocardial infarction. Measurements were made for: CRP for a total of 72 hours, (peak value=72±70mg/dl), CK-MB, (CK-MB curve area =59±0.3565 min-mg/dl), HRV with 24-hour Holter recordings before hospital discharge. Heart rate variability was assessed by standard linear regression.

**Results:** Mainly sympathetic indices of HRV were inversely related to the extend of myocardial damage estimated by cardiac enzymes and with CRP levels.

**Conclusion:** The hypertrophic subjects in our study had athlete's hearts, without any evidence of hypertension or cardiomyopathy. Our study favors the concept that under hypertensive stress physiological hypertrophy increases transmural dispersion of refractoriness.