Introduction: It is very known fact that disturbance in repolarisation is fol-
lowed with bad prognosis. According to recent data nonlinear analysis of heart
rate variability is also very strong predictor in risk stratification by patients
with myocardial infarction. Aim: was to examine the correlation between non-
linear analysis of heart rate variability as a risk predictor with parameters of
repolarisation analysis and other risk predictors.

Methodology: We have analysed the data from 860 patients who are in-
volved in our program for risk stratification after myocardial infarction. All
patients were underwent to short (5 minutes) power spectral analysis of heart
rate variability with late potentials and nonlinear analysis (Poincare plot) us-
ing commercial software (Schiller, Switzerland) (1st, 7th day, 3rd week).
The results of nonlinear analysis were divided related to visual form (cigarette,
cluster, comete). Long term power spectral and QT interval analysis was made
with Holter ECG (3rd week). QTc interval and dispersion was analysed 1st, 7th
day and 3rd week. P and T wave morphology, was analysed using Vectorcar-
diography orthogonal (X,Y,Z) and 12-EFG leads (1st, 7th day and 3rd week).
QRS and T loop, maximal QRS and QRS-T angle was also analysed using cardiac
software.

Result: inversion of T wave in orthogonal X leads had 70 (39,50%) pa-
ients (p) with space plot as a cigarette, 107 (34,4%) p.with comete form and
30(25%) p. with cluster form. P<0.05 ECG prolongation of QTc interval had
124 (65,50%) patients with space plot as a cigarette, 165 (45,70%) p. with form
of comete and 57 (38,3%) with cluster form. P<0.01 QT dispersion -S0 on the
ECG had 69(36,10%) patients with form of cigarette, 69(39,20%) comete and
45(31,10%) with cluster. P<0.01 T/R curve was steep by 140 (50,5%) patients
with form of cigarette, 12(4,60%) comete and 7(7,10%) cluster form. P<0.01
Conclusion: patients with space plot as a cigarette (sympathicus hypeactiv-
ity) had more often presence of prolongation of QT interval (ECG and Holter),
higher value of ECG QT dispersion, steep QT/R curve, inversion of T wave
in X leads, D1, AVL, V1-V6. Inversion of T in D2, D3, AVF, AVR, was more
present in patients with cluster form.

A11-5 SPONTANEOUS CARDIAC BAROREFLEX SENSITIVITY IN THE CARDIAC RISK STRATIFICATION AFTER MYOCARDIAL INFARCTION

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In post myocardial infarction patients (MI), altered heart rate variability (HRV)
as well as attenuated baroreflex response to pharmacological stress have estab-
lished prognosis implication. Sponaneous cardiac baroreflex sensitivity (sBRS)
assessed by sequences method is known to be correlated with its pharmacolog-
ical evaluation but its own prognosis implications remain uncertain. Thus,
we evaluated the clinical value of spontaneous sBRS in 199 postinfarction patients
for a 2 years mortality. sBRS was evaluated 10-15 days after the coronary event
along with a 24-h Holter ECG recording. During the 2.6±0.7 years follow-up,
the total mortality reached 12.6%. Sponaneous BRS was a significant predic-
tive parameter using ROC curves analysis for all cause mortality (w=0.715;
p<0.005). Abnormal sBRS (slope <3 and, slope 3 to 6 ms/mmHg) and al-
tered SDNN (<75 ms) were found significant predictors of total mortality by
log-rank test (p<0.001, p<0.01 respectively). Using multiple logistic regres-
sion, sBRS and QRS duration (ECG high amplification) were the only two
independant parameters associated with total mortality (p<0.01). This study
confirms that valuable prognosis information can be obtained using the simple
spontaneous baroreflex control measurement. Its performance associated to its
use, could contribute to propose systematically this powerful parameter in
the evaluation of the risk stratification in such a population.

A11-6 RIGHT BUNDLE BRANCH BLOCK AS A CRITERION FOR POSTOPERATIVE ISCHEMIC MYOCARDIAL DAMAGE

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Introduction: Left bundle branch block (LBBB) is a well-known marker of
postoperative myocardial ischemia. However, the diagnostic significance of the
right bundle branch block (RBBB) development after coronary artery bypass
grafting (CABG) is still at issue.

Method: Sixty two patients (all male, range 34 to 67) after CABG were
evaluated. In 52 patients (Group 1) CABG was performed on a beating heart
and in other 30 patients (Group 2) using cardiopulmonary bypass (CPB). ECO
was monitored during, and after the procedure. The ELKART EP LAB system
(ELECTROPULSE Medical Industries Ltd., Tomsk, Russia) was used for elec-
trophysiology characteristic evaluation: 12-lead ECG before the procedure and
during early postoperative period; 6-lead ECG in conjunction with 3 epicardial
electrograms (left and right atrial auricles, right ventricle) during the procedure
and in early postoperative period (7-day initial period). Troponin I level was
defined using immune-enzyme analysis before the procedure, immediately after
myocardial revascularisation, 4, 12, 36, and 48 hours after the revascularisation,
and on the 29 postoperative day.

Results: In the majority of patients from both groups there was not any
increase of troponin I, changes in ventricular conduction, or negative changes
of conduction system electrophysiology characteristics.

In 4 patients from the Group 10 level of troponin I was 1.5-2 times much
than in the rest. In one of these patients transient RBBB was observed during
the first postoperative day. There was no ECG data of ischemic myocardial
damage. In 3 out of 6 patients from the Group 2 who had little increase of
troponin I without ischemic ECG changes transient RBBB was observed during
the second to third postoperative days.

In 2 patients who underwent CABG with CPB troponin I level was 3-6
times much than in the rest. These patients had a distinctive ECG change
indicating perioperative myocardial infarction development. Persistent RBBB
was observed in one of them, and transient RBBB in another. In 1 patient from
the beating heart CABG group troponin I level was 8 times much than in the
rest, ECG indicated myocardial infarction, and persistent RBBB was observed.

Conclusion: Right bundle branch block is one of the myocardial ischemia
markers. Development of persistent postoperative RBBB indicates the develop-
ment of ischemic myocardial damage.

A12. ADVANCES IN ELECTRICAL CARDIOVERSION OF ATRIAL FIBRILLATION

A12 1 VENTRICULAR PAUSES DURING ATRIAL FIBRILLATION PREDICT RELEASE 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 prospectively the use of ambulatory ECG monitoring in AF
patients before recurrence after ECV.

Methods: RR interval variables were obtained from 24-hour ECGs recorded
before ECV on 119 patients (65 men, age 66.1±10.0 years) with persistent
AF. A 48-hour recording was obtained from each of 27 patients to evaluate the
reproducibility of RR variables. All patients were prospectively followed-up
during ECV, one-week and one-month later.

Results: Out of total 119 patients, 16 (13%) patients failed ECV and a total
of 65 (55%) patients were in AF at one-week and 81 (68%) at one-month
after ECV. Recorded monitoring ECGs confirmed the reproducibility of the
maximum RR (RR-max) and the minimum RR (RR-min) intervals for AF. The
RR-max was longer in the recurrent AF group than in those who maintained
sinus rhythm at one-week and one-month follow-up. This was more significant
when the RR-max occurred during the day-time (2549±491 vs. 2077±522 ms;
2655±501 vs. 1890±425 ms; p=0.005, <0.001, respectively). The difference
was not related to the use of Amiodarone (non-Amiodarone patients: 2295±472
vs. 1970±567 ms; 2449±514 vs. 1849±442 ms, p<0.05, 0.004; respectively).
The RR-min alone did not associated with outcome of ECV, but its correlation
with preceding RR was detected in AF group.

Conclusion: Ventricular pauses during AF predict relapse after ECV.