was measured and programmed atrial stimulation with 1 and 2 ES performed in control state (CS) and after isoproterenol.

**Results:** At 2nd study, among pts studied for syncope at study 1, 1 has still syncope, 2 have AVRT, 1 has rapid AF, and 2 are asymptomatic. Among pts with AVRT at study 1, 25 have AVRT, 7 are asymptomatic and 2 have AF. Among pts with AF, 4 have still AF and 1 is asymptomatic. Among asymptomatic pts 3 have a spontaneous malignant form, 7 remain asymptomatic, 3 have AVRT, 1 has syncope and 1 has AF. All AVRT or AF occurred in pts with inducible AVRT or AF at EPS 1. The higher rate conducted by AP was significantly lower in CS and after isoproterenol at study 2 (157±49 b/min, 193±113) than at study 1 (199±65, 27±65). AP has lost anterograde conduction at 60% of input. All asymptomatic but one had initially 1/1 conduction through AP 170/min. However 8 of them had still AVRT. Among pts with initially rapid conduction through AP (250/min), all but one have a rapid conduction at EPS 2, 3 of them which were asymptomatic developed rapid AF.

**Conclusion:** The study confirms that a benign form of WPW without inducible AVRT or AF remains benign. Pts with AVRT and AF and long refractory period become asymptomatic in 20 % of cases. Pts with inducible AF remain at high risk of events in most cases.

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**Low stress-induced ST segment/Heart rate hysteresis as a predictor of low microvolt T-wave alternans**

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**Background:** ST segment / heart rate hysteresis can improve the diagnostic performance of the exercise ECG for prediction of coronary artery disease and cardiovascular mortality. As this simple variable integrates the heart-rate adaption in 17 pts aged from 17 to 67 years (47±15); all of them but one had initially 1/1 conduction through AP 170/min. However 8 of them had still AVRT. Among pts with initially rapid conduction through AP (250/min), all but one have a rapid conduction at EPS 2, 3 of them which were asymptomatic developed rapid AF.

**Conclusion:** The study confirms that a benign form of WPW without inducible AVRT or AF remains benign. Pts with AVRT and AF and long refractory period become asymptomatic in 20 % of cases. Pts with inducible AF remain at high risk of events in most cases.

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**Six-hour holter recording of microvolt T-wave alternans and heart rate turbulence in the CCU compared to classical 24-hour ambulatory ECG**

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**Background:** T-wave alternans (TWA) and heart rate turbulence (HRT) measured during 24 hour ECG recordings are 2 powerful non-invasive tools to risk-stratify cardiovascular patients. The aim of our study is to assess whether a fast ECG-holter scan yields different information from classical 24-hour ambulatory ECG regarding TWA and HRT measurements.

**Methods:** All consecutive 21 patients with a non-ST-elevated myocardial infarction and admitted in intensive care unit of cardiology, have been moni-tored with an ECG-holter for classical, TWA and HRT analysis over 24 hours. TWA has been measured with the modified moving average method. Routine reading of the holters has been followed by a specific analysis. Each 24-hour period has been divided into four equal periods. Maximal TWA, T-onset and T-slope for HRT over those four 6-hour periods have been analyzed and compared with full day results using a repeated measures analysis of variance (ANOVA).

**Results:** 16 men and 5 women aged between 31 and 90 (mean 57.5 +/- 24.8) have been included. Mean maximal TWA was 73 ± 25 µV. 6-hour maximal TWA was 59 +/- 23 µV, 55 +/- 26 µV, 56 +/- 30.01 and 48 +/- 23.72 µV (p=0.11). HRT as assessed by T onset and T slope were -0.00619 % +/- 0.02, 0.0033 % +/- 0.04, 0.00571 % +/- 0.03, -0.00952 % +/- 0.03 (p=0.46) and 3.75 +/- 3.99. 5.46 +/- 7.29, 6.32 +/- 9.13, 5.96 +/- 10.85 (p=0.46) respectively for each time period.

**Conclusion:** This preliminary study suggests that a 6-hour ECG-Holter recording could be a reliable and feasible method to assess cardiovascular mortality and risk of SCD in patients admitted for an acute coronary syndrome in intensive care unit by studying TWA and HRT. Faster risk stratification could thus be done during hospitalization in order to optimize therapeutics and better identify candidate for fast ICU discharge.

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**C-reactive protein: a new marker of arrhythmic event in Brugada syndrome?**

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**Background:** We studied the relationship between C-reactive protein (CRP), and clinical manifestation of Brugada syndrome.

**Methods and Results:** All patients underwent physical examination and detailed cardiac tests for CRP. Among 54 patients, 37% were symptomatic (17 syncope and 3 aborted sudden death) and 63% were asymptomatic. Mean CRP level was 2.4±1.42mg/l in symptomatic group and 1.4±0.92mg/l in asymp-tomatic group (P=0.03). In a multivariate model, CRP concentrations 2 mg/l remained an independent marker for being symptomatic (P=0.004; 95% CI: 1.8 to 21.7) and a predictor of ICD implantation (P=0.008; 95% CI: 2.2 to 19.8).

**Conclusion:** C-reactive protein is significantly higher in symptomatic patients with Brugada syndrome and seems to be a biomarker for cardiac events in high risk Brugada patients.

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**P wave signal analysis is able to recognize with a good accuracy patients with or without previous atrial fibrillation**

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**Purpose:** Paroxysmal atrial fibrillation (PAF) is a common cardiac arrhythmia but difficult to diagnose: frequently asymptomatic and when symp-tomatic too sporadic to be captured by electrocardiogram (ECG) or even long duration Holter monitoring. However this diagnosis carries a major importance as it could induce key changes in diagnosis and therapy (anticoagulation). Our
aim was to evaluate the accuracy of the P signal wave analysis to discriminate patients with and without previous documented AF.

**Methods:** We included patients with previously documented AF and individuals without any suspicion of this arrhythmia. A digital ECG was recorded and analyzed blindly with a home-made signal P wave algorithm. This algorithm has been described in details in peer review journals (IEEE, IFMBE). Briefly it consists of three steps: 1) isolation of every P-wave by segmentation of each ECG beat; 2) measurement of parameters extracted from the P-wave signal such as length, pattern, energy and entropy in different time-frequency cells; 3) classification in two classes by a support vector machine algorithm.

**Results:** We included 50 patients, 30 (17 M, mean age 55.9±17 years) with documented PAF and 20 (18 M, mean age 35±14) without history of AF. Blinded P wave signal analysis correctly classified 22 patients within the 30 in the AF group and 16 among the 20 in the control group (sensitivity 73%, specificity 80%, positive predictive value 85% and negative predictive value 67%).

**Conclusion:** Signal P wave analysis selects with a good accuracy, comparable or even better than the one reported with imaging in the diagnosis of pulmonary embolism, patients with previous AF. These results, if confirmed in multisite trials could give arguments to modify the treatment of patients with palpitations or embolism of unknown origin.

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Contribution of the spect myocardial imaging in the detection of the viability of myocardium in the comment infarct before a gesture of revascularisation

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A viable myocardium is able of functional recovering. The existence of a viability is thus an a posteriori observation, of a functional recovery after revascularisation. The aim of our study is to identify myocardial viability after post myocardial infarct with SPECT myocardial imaging in patients proposed for a revascularisation procedure.

This prospective study looked at patients who experienced previous infarct and in whom we performed a SPECT Thalium 201. The myocardial viability at SPECT was revealed by a residual ischaemia higher than 50% within a necrosed territory. The segmental kinetics abnormalities were studied by echocardiography before revascularisation procedure then at 6 and 12 months after to estimate a recovery or at least an improvement of the kinetics after the procedure.

The Segmentar kinetics study was made by qualitative analysis allowing a codification of segments according 3 grades. We had 138 patients who benefit from revascularization procedure after detection of myocardial viability by SPECT in the territory of the MI (71 transluminal coronary angioplasty (TCA) and 67 aorto-coronary bypasses). We then confronted viable territories with the segmentar kinetics of these same territories at echocardiography, before and at the 6th and 12th month after the procedure.

A functional recovery in term of improvement of the segmentar kinetics at the 6th or the 12th month is held as assessment criterion confirming the myocardial viability. 75% patients have improved their kinetics at 6 or 12 months. The SPECT in the TL 201 allowed to detect a myocardial viability and thus to predict a functional recovery in post myocardial infarct period with a 96% sensitivity, a 80% specificity, a positive predictive value of 94% and a negative predictive value of 86%.

The SPECT myocardial imaging is a good tool in the detection of the myocardial viability in the post myocardial infarct period.