

in presence of borderline diagnostic basal ECG, it might be a good alternative to document the diagnostic pattern, before using sodium channel blockers.

In serial 12L-Holter recordings significant fluctuations of BrECG pattern are seen. Type 1 BrECG was mainly documented between 12-noon and 6 pm. Further studies with more patients with repeated 12L-Holter recordings and longer follow-up are needed to better understand the role of type 1 ECG burden in the risk stratification of patients with Brugada syndrome.

O310

RS AND T WAVES AMPLITUDE AS MARKERS OF INTRAVENTRICULAR VOLUME CHANGES DURING STRESS TEST IN NORMAL SUBJECTS

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Background: increasing or decreasing in “telediastolic volume” leads to a decrease or increase in QRS wave amplitude respectively. An inverse correlation between electrocardiographic and hemodynamic variables has been observed in some clinical experimental conditions in which endoventricular volume progressively changes, such as during stress test (see Fig.1), during haemodialysis or during cardiac arrhythmias. The mechanism underlying to this phenomenon is complex and still debated, but the role played by changes in intraventricular volume seems to be the most reliable. Increasing telediastolic volume leads to an increase in electrical resistivity due to higher number of red cells in the left ventricular chamber. In our opinion the same mechanism could play a role in T waves amplitude changes observed in some clinical conditions, which in this case represent, “telesistolic volume” changes.

Aim: to obtain information about left ventricular compliance by continuous RS and T wave amplitude monitoring during stress test in normal subjects.

Methods: 20 healthy subjects (15 males, 5 females, mean age 38 years) underwent to ECG stress test performed according to Bruce protocol. Standard 12-leads ECG was recorded using PC-ECG Norav Medical Ltd.) device. V5 lead was used as less influenced by motion artifacts. A wavelet multiscale analysis was used to decompose the signal into trend and noise components. The wavelet filter acting as a low frequency pass filter, filters out also eventual respiratory modulations.

Results: the RS amplitude trend appears stable until the late effort stage in which there is a decrease as consequence of an abrupt increase in “telediastolic volume due to a drop in heart rate(see Fig 2 central panel). At the same time T wave amplitude starts to grow as a result of a progressive decrease in “telesistolic volume” meaning there is normal systolic response to diastolic overload (see Fig.2 right panel). RS and T amplitude trends show mirror appearance and seem to conform to the Frank - Starling law.(see Fig. 3)

Conclusions: RS and T wave amplitude trends seem to be an expression of telediastolic and telesistolic volume changes during stress test in normal subjects, as they show a secular behaviour according to the Frank – Starling law. Finding differences in RS and T amplitude trends in ischemic patients with no depressed ST segment could represent a useful tool in the setting of these patients. More studies are needed in order to confirm the mechanism which links these ECG features with hemodynamic changes. In our opinion using echocardiographic or non invasive haemodynamic monitoring with ECG monitoring, represents an important way to solve this problem. Regarding speculative viewpoint we hope the outcomes of this study will be usefully employed in clinical practice.

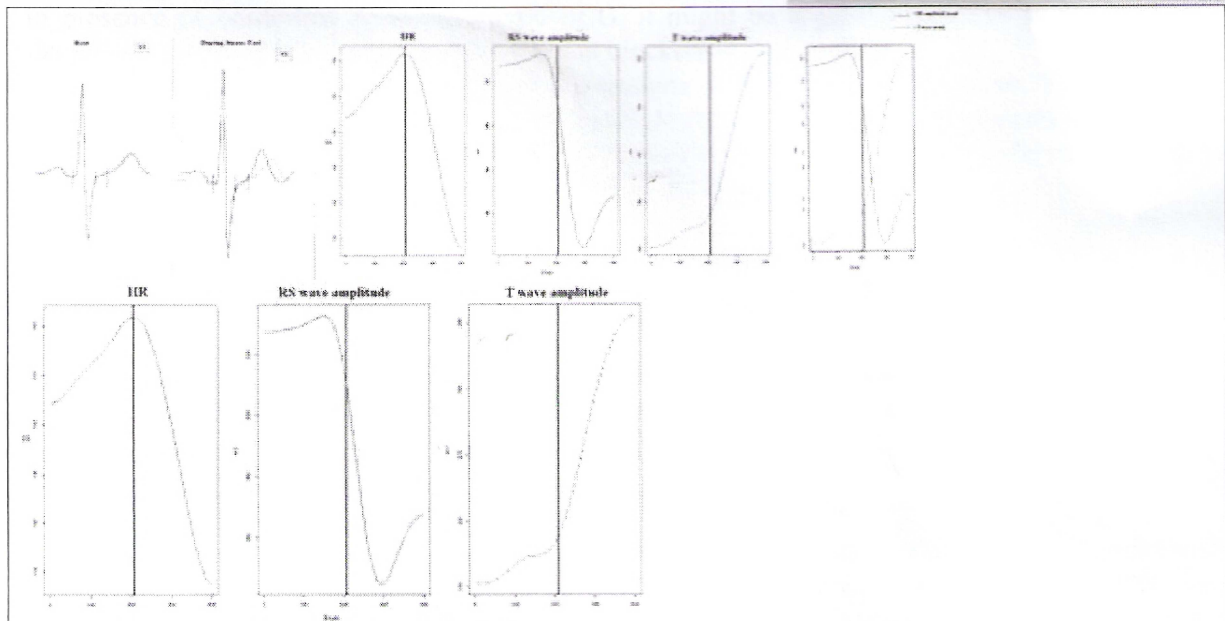


Fig. 3

Fig. 2 Mean Profile of HR (Left Panel), RS waves amplitude (Middle Panel) and T wave amplitude (right Panel) around acme of the stress test. Vertical line = end of the effort

Fig. 1. RS and T waves amplitude modifications at rest (left panel) and during (right panel) in normal subject.

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RIPOLARIZZAZIONE PRECOCE NEI SOGGETTI PSORIASICI

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Background: La psoriasi è una malattia cutanea cronica caratterizzata da un substrato infiammatorio e proliferativo. Secondo alcuni autori il tono neurovegetativo è implicato nel determinismo della malattia. Il nostro studio si è pertanto proposto di valutare la prevalenza di uno dei possibili marker elettrocardiografici di attivazione del sistema neurovegetativo, la ripolarizzazione precoce (RP), in una popolazione di soggetti psoriasici.

Metodi: Lo studio ha arruolato 100 soggetti affetti da psoriasi e 100 controlli con fattori di rischio cardiovascolare comparabili: tutti i soggetti sono stati sottoposti ad elettrocardiogramma a riposo. Sono state considerate la presenza di RP in almeno 2 derivazioni contigue, le derivazioni in cui era presente l'aspetto RP, l'attività fisica abituale, i farmaci assunti, la frequenza cardiaca di base.

Risultati: L'aspetto RP in almeno due derivazioni contigue era presente nel 40% dei soggetti psoriasici vs 14% dei controlli ($p < 0.001$), (36% vs 10% nelle derivazioni anteriori, $p < 0.001$; 6% vs 3% nelle inferiori, p n.s.; 10% vs 2% nelle laterali $p < 0.05$).

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