evaluate the accuracy of a fully automatic approach for QT duration evaluation.

Methods: 12-lead digital ECG Holter were recorded in 38 healthy subjects (27 males, mean age=27.4±8.0 years) on baseline conditions (day 0) and after administration of 160 mg (day 1) and 320 mg (day 2) of d-i Sotalol. For each 24-hour period and each subject, ECGs were extracted every 10 minutes during the 4-hour period following drug dosage. Ventricular repolarization was characterized using 3 biomarker categories: conventional ECG time intervals, Principal Component Analysis (PCA) analysis on the T-wave, and fully automatic biomarkers computed from a mathematical model of the T-wave.

Results: QT interval was significantly prolonged starting 1h 20 minutes after drug dosing with 160 mg and 1h 10 minutes after drug dosing with 320 mg. PCA ventricular repolarization parameters sotalol-induced changes were delayed (≥3 hours). After sotalol dosing, the early phase of the T-wave changed earlier than the late phase prolongation. Globally, the modeled surrogate QT paralleled manual QT changes.

The duration of manual QT and automatic surrogate QT were strongly correlated (R²=0.92, p<0.001). The Bland & Altman plot revealed a non-stationary systematic bias (bias=+26.5 ms±1.96*SD=16 ms).

Conclusions: Changes in different ECG biomarkers of ventricular repolarization display different kinetics after administration of a potent potassium channel blocker. These differences need to be taken into account when designing ventricular repolarization ECG studies.

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Incidence and clinical significance of the association of paroxysmal supraventricular and ventricular tachycardia

Béatrice Brenbilla-Perrot, Jean Marc Sellal, Nicolas Sadoul, Hugues Blangy, Arnaud Terrier De La Chasse, Olivier Claudon, Olivier Selton, Pierre Louis, Laurent Groben, Pierre Yves Zinzius, Lucian Muresan, Sonia Magalhes, Fabrice Duheux, Karim Djaballah, Leice Darwiche

CHU of Brabois, Cardiologie, Vandoeuvre Les Nancy, France

Fine-QRS complex tachycardia alternating with wide-QRS complex tachycardia can lead to an erroneous diagnosis of paroxysmal supraventricular tachycardia (SVT) with or without aberrancy. The purpose of the study was to evaluate the incidence and the significance of the association of SVT and ventricular tachycardia (VT) in the same patient.

Population: 898 patients aged from 11 to 88 years were consecutively admitted for a sustained VT; 818 patients had associated heart disease (history of myocardial infarction 374, idiopathic dilated cardiomyopathy 69, arrhythmogenic right ventricular dysplasia 68, miscellaneous 289) and 80 had no apparent heart disease.

Methods: Electrophysiological study including programmed atrial and ventricular stimulation, 2D cardiac echocardiography, coronary angiography in patients older than 40 years, right ventricular angiography and cardiac RMI since 2002, were performed in these patients.

Results: Fifteen patients presented (2%) with either SVT or VT. All SVT’s were related to an atrioventricular node reentrant tachycardia (AVNR). The association of SVT and VT was significantly more frequent in patients without heart disease and with verapamil-sensitive VT (n=6/80, 7.5 % (p<0.001), atrahymogenic right ventricular dysplasia 86, miscellaneous 289) and 80 had no apparent heart disease.

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Objective: Automatic algorithms are used in daily medical practice in dual chamber pacemaker recipients? Intermediate results from a prospective registry

Pierre Le Franc (1), Jacques Cassassus (2), Karim Bel Hadj (3), Olivier Bizeau (4), André Guillemet (5), Jean-Luc Rey (6), Nicolas Delarque (7), Pierre Bienvenu (8), Olivier Gartenlaub (9), Laure Coutrot (10)


Objective: Automatic algorithms in pacemakers (PM) allow continuous adaptation of settings to patients’ clinical conditions. Some are dedicated to pacing and others to sensing. One of the objectives of BELUGA on-going, international, prospective registry was to evaluate the use of automatic algorithms available in Insignia™ PM in current medical practice.

Methods: The percentage (%) of activation of atrio-ventricular search hysteresis algorithm (AVSH), dynamic AV delay (DynAVD), automatic atrial ventricular sensing (AAS/AVS), ventricular automatic capture (VAC), and the % of use of automatic ventricular threshold test during patients assessment