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Prognostic impact of defibrillator shocks in a colombian cohort

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On behalf of: Enfermedades del Corazón CES

Introduction: Sudden cardiac death accounts for the majority of deaths from cardiovascular disease, the implantable cardioverter defibrillator (ICD) has become the first-line treatment option for primary and secondary prevention, since it significantly reduces mortality due to its capability of detecting ventricular arrhythmias, can quickly apply high-voltage electrical discharge that correct such arrhythmias.

Purpose: To evaluated the association and prognostic impact between appropriate and inappropriate ICD therapies and mortality in a cohort of patients.

Methods: Prospective observational cohort study including 530 patients with cardiopathy and previous electrical discharge with high risk of sudden cardiac death with ICD or cardiac resynchronization device from June 2013 to December 2016. The assessed outcomes were incidence of appropriate or not ICD therapy and its association with mortality. Stratified analyses according to etiology were performed. The association between electrical storm and mortality was evaluated, as well as between programmed therapy zones and ICD shocks. Differences between groups were assessed by t-test for continuous variables, and by chi-square test for categorical variables. Kaplan-Meier survival curves and Log-rank tests were used to compare mortality and the incidence of appropriate or inappropriate therapy and its association with mortality. Multivariate analysis, and Cox proportional hazards analysis were performed; P value < 0.05 was considered statistically significant. Analyses were conducted with SPSS software (version 21).

Results: Of all participating patients, 72.1% were men, and median age was 64 years. Mean follow-up time was 1.5 ± 0.6 years, 65% men) and assessed the following electrocardiographic parameters:

- The diagnostic precision of those criteria and algorithms in wide-QRS tachycardia in absence of structural heart disease. p<0.05

P1118
Applicability of electrocardiographic criteria for wide-QRS tachycardia in patients with normal heart

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Introduction and purpose: There are several electrocardiographic criteria and algorithms aimed to differentiate ventricular from supraventricular tachycardia with aberrancy. However, most of those studies did not include ventricular tachycardia (VT) in absence of structural cardiopathy or idiopathic VT (VT). The aim of this study was to determine the diagnostic precision of those criteria and algorithms in wide-QRS tachycardia in this population.

Methods: 35 ECGs of patients with VT who were treated with ablation were retrospectively analysed and compared to 35 ECGs of patients with supraventricular tachycardia (SVT) with aberrancy and therefore wide-QRS tachycardia. Two cardiologists, blinded to the origin of the tachycardia, analysed the ECGs independently.

Conclusions: Time related voltage abatement of ventricular EGM is a predictor of long-term success after RF ablation of idiopathic RVOT arrhythmias. Presence of "warning up" however is not significantly correlated to procedural success in the long run.

P1119
Impact of right ventricular outflow tract conduction delay signs on prediction of ventricular tachyarrhythmia in Brugada syndrome

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Background: Brugada syndrome (BrS) is an autosomal dominant disease responsible for sudden cardiac death in young individuals without structural anomalies. The most critical part in the management of this channelopathy is to identify high risk, particularly asymptomatic patients. Several studies indicated that conduction delay in the right ventricular outflow tract (RVOT) is the main mechanism underlying ventricular tachyarrhythmia (VTA) in BrS patients.

Purpose: The aim of this study was to investigate the significance of electrocardiographic parameters indicating RVOT conduction delay as predictors for VTA events in BrS patients.

Methods: We retrospectively analyzed electrocardiograms from 147 BrS patients (43±15years, 65% men) and assessed the following electrocardiographic parameters:

- Prominent SI, SII, SIII, QIII and V6S in lead I, lead II and lead III, 3) SII and SIII, QRM and V6S:R in lead I, lead II and lead III, 4) prominent Q wave in lead III, as possible predictors of VTA occurrences during long-term follow up.

Results: Prominent SI, SII, SIII, QIII and V6S occurred more frequently in patients who either presented with VTA or developed VTA during the follow up (p≤0.036 months). SII-SIII has the highest area under the curve for predicting VTA (AUC: 0.84, sensitivity:80%, specificity: 89%). Multivariate regression analysis showed that prominent S waves in lead I, SII-SIII and V6S were independent predictors for VTA events in BrS patients (OR: 4.15, 95% CI: 1.9-16.9; SII-SIII: OR: 8.3, 95% CI: 1.82-37.85; vte VTA: OR: 3.7, 95% CI: 1.0-13.58).

Conclusions: Prominent S waves in lead I, SII-SIII and V6S can be used as predictors for VTA in patients with BrS.