P506

Brugada Syndrome: is the addition of the electrocardiographic risk markers the clue?

Tronconi A.; Carnero G.; Mysuta M.; Bozza A.; Peltzer M.; Labin B.; Gavilan L.; Ramirez D.; Alvarez M.; Gonzalez JL.; Galizio N.

Favaloro Foundation University Hospital, Buenos Aires, Argentina

Background: Risk stratification in Brugada Syndrome (BS) remains a clinical challenge. Several electrocardiografic (ECG) risk markers had been described, as a spontaneous type 1 Brugada pattern (ST1B), maximal time interval between the peak and the end of the t wave in precordial leads (Tpe Max), the presence of an S Wave on DI, a PR interval (PRi) ≥ 200ms and fragmented QRS (f-QRS).

Purpose: Evaluate the association of ECG risk markers with sudden cardiac death (SCD) or appropriate shocks (A-Sh) by implantable cardioverter defibrillator (ICD) in patients (p) with BS.

Methods: From a registry of 97 p with BS with a median follow up of 2.3 years (Q1 0.7-Q3 7.8), 12 lead ECG were recorded in every p. QT peak interval (QTp) was measured between the QRS onset and the peak of the T wave. Tpe was calculated between the difference of QT and QTp in precordial leads (V1 to V6). TpeMax was defined as the most prolonged Tpe. If an S-DI was present, duration and amplitude was measured. PRi was measured on DII. Baseline characteristics: Age 44 ± 13 years, male 74 (76%), secondary prevention 2 (3%), malignant syncope 10 (10%), inducible electrophysiology study 22/43 (51%), SCD on first grade family < 35 years 12 (12%) and ICD 34 (35%). A-Sh and SCD were compared among p with ST1B vs no ST1B, TpeMax≥100 vs <100ms, S-DI ≥0.4 vs <0.4ms, S-D ≥0.1 vs <0.1mV, PRi≥200 vs <200ms and presence of f-QRS ≥ 2 spike ≥ 2 leads. Variables that were associated with A-Sh or SCD were combined. For variables with significant difference sensibility (Sen) and specificity (Spe) was calculated.

Results: During follow up 6 p presented A-Sh and no p SCD. Results are described in the Table.

Conclusion: In our study population, there was a significant higher incidence of A-Sh in p with ST1B, Tpe Max ≥ 100ms and S-DI ≥ 0.1mV. We found that the presence of one ECG risk marker had a high sensibility to predict A-Sh. The presence of the 3 ECG risk markers highly increased specificity to predict A-Sh. Further trials should be carried out to asses if ECG risk markers would allow us to differentiate which asymptomatic patients could benefit from electrophysiological study for risk stratification (high sensibility - One ECG Risk marker) or would benefit from ICD implantation (high specificity - 3 ECG Risk markers).

Abstract Figure.

Table				p	Sen	Spe
ST1B	5/36 (13.8%)	No ST1B	1/61 (1.6%)	**0.01**	**83%**	**63%**
Tpe Max ≥ 100ms	6/38 (15%)	Tpe< 100ms	0/59 (0%)	**0.001**	**100%**	**61%**
S-DI ≥ 0.4ms	4/36 (11.1%)	S-DI < 0.4ms	2/61 (3.2%)	0.1		
S-DI ≥ 0.1mV	5/41 (12.2%)	S-DI < 0.1mV	1/55 (1.8%)	**0.03**	**83%**	**57%**
f-QRS	1/7 (14.3%)	No f-QRS	5/90 (5.5%)	0.2		
PRi ≥ 200ms	3/32 (9.3%)	PRi< 200ms	3/65 (4.6%)	0.3		
Tpe Max ≥ 100ms and S-DI ≥ 0.1mV	5/21 (23.8%)	Tpe Max < 100ms or S-DI < 0.1mV	1/76 (1.3%)	**0.0001**	**83%**	**78%**
Tpe Max ≥ 100ms and ST1B	5/20 (25%)	Tpe Max < 100ms or ST1B	1/77 (1.2%)	**0.00009**	**83%**	**79%**
ST1B and S-DI ≥ 0.1mV	4/18 (22.2%)	No ST1B or S-DI < 0.1mV	2/79 (2.5%)	**0.001**	**67%**	**81%**
Tpe Max ≥ 100ms, ST1B and S-DI ≥ 0.1mV	4/8 (50%)	Tpe Max < 100ms or ST1B or S-DI < 0.1mV	2/79 (2.5%)	**0.000001**	**67%**	**91%**