Conclusion: Adults with PuPV in 44 DCM genes have higher all-cause mortality and increased risk of developing DCM-associated features and complications, compared to G- controls.

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RISK STRATIFICATION OF PATIENTS WITH BRUGADA SYNDROME BY NON-INVASIVE HIGH DENSITY ELECTROCARDIOGRAPHIC MAPPING SYSTEM

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Background: Risk stratification in patients affected by Brugada syndrome is a crucial moment for the therapeutic management, as this pathology is increasingly diagnosed in young subjects without further comorbidities.

Objective: To provide a risk stratification in patients affected by Brugada syndrome that can relies on clinical and electrophysiological data at the same time.

Methods: We reported our single-Centre experience from January 2016 to October 2021; all consecutive patients with Brugada Syndrome undergoing non-invasive high-density electrocardiographic mapping were included in the study. We defined the correlation between the clinical risk factors and the extension of the pathological substrate in patients with Brugada syndrome analyzed by non-invasive high density electrocardiographic mapping system and a new generation software developed for the post-processing analysis.

Results: In patients with spontaneous Brugada type 1 ECG pattern, the pathological substrate areas were always larger than the patients without spontaneous pattern; the results were statistically significant during stress test (3.6 ± 5.46 vs 10.33 ± 10.51; p = 0.03). In patients with familiarity for first-degree relatives SCD before 35 y.o. the areas were on average wider, in the baseline this difference was statistically relevant (3.6 ± 5.46 vs 10.33 ± 10.51; p = 0.03). In patients with aborted SCD the average of the areas was always larger than in patients who did not present this risk factor, with statistically significant results at baseline (4.76 ± 6.75 vs 17.29 ± 13.58; p = 0.04) and after pharmacological induction with Ajmaline (11.61 ± 10.04 vs 35.49 ± 17.23; p = 0.0003).

Conclusion: Latest generation technologies such as non-invasive high-density electrocardiographic mapping systems can represent a new frontier in the study of BrS patients, through the identification and measurement of pathological areas and their correlation with the patient’s clinical history and risk factors; moreover, this technology provide a valuable aid in the pre-procedural study of high-risk patients by identifying the pathological areas that will be subject to ablation.