Abstract: P875

The characteristics of electrocardiographic markers of sudden cardiac death (SCD) in recovery peripartum cardiomyopathy patients: a novel study

Authors:
T A Sabrawi¹, H S Prameswari¹, M Iqbal¹, N S Liem¹, T I Dewi¹, M Hasan¹, ¹Hasan Sadikin Hospital, Cardiovascular Medicine - Bandung - Indonesia,

Topic(s):
Ventricular Arrhythmias and SCD - Pathophysiology and Mechanisms

Citation:

Objective

This study was conducted to assess the characteristics of electrocardiographic markers of sudden cardiac death (SCD) from the 12-lead electrocardiogram (ECG) in recovery peripartum cardiomyopathy (PPCM) patients.

Background

A Patient with PPCM has a risk of ventricular arrhythmia or sudden cardiac death (SCD). The risk of SCD persist even after complete recovery of left ventricular function. This study was conducted to assess known ECG markers for SCD in recovery PPCM patients. The study of ECG markers of SCD in this population has not been reported.

Methods

Data was obtained from registry of PPCM in our Faculty of Medicine, Indonesia, 12-lead ECGs were taken from recovery PPCM patients (29 women) compared to post labor women without PPCM in control group (29 patients). The QRS duration, QTc, T Peak to T end, spatial QRS-T angle, delayed QRS transition zone, and electrocardiographic LVH were measured from the 12-lead ECG prior to and unrelated to the SCD event in both groups. The QRS duration, QTc, T Peak to T end, QRS-T angle, delayed QRS transition zone, and electrocardiographic LVH were analyzed using Mann-Whitney test, Independent Samples T-Test, and Chi-Square test. Continuous variable were expressed as mean ± standard deviations if normally distributed and as median (minimum-maximum) if abnormally distributed.

Result

Twenty-nine PPCM patients in PPCM group (mean age 31 ± 6.2 years) and 29 healthy post labor women without PPCM in control group (mean age 31 ± 4.6 years) were enrolled in this study. The QRS duration were significantly higher in PPCM group compared to the QRS duration in control group (median 100 (80-110) ms vs 80 (74-96) ms; p-value <0.001). The QTc were significantly higher in PPCM group compared to the control group (median 443 (359-491) ms vs 410 (353-468) ms; p-value <0.001). The T peak to T end were significantly higher in PPCM group compared to the control group (mean 85.8 ± 17 ms vs 70 ± 9.6 ms; p-value <0.001). The spatial QRS-T angle (median 28 (2-170) ms vs median 21 (6-113) ms ; p-value = 0.312) and delayed QRS transition zone (27.6% (n=8) vs 17.2% (n=5) ; p-value = 0.345) were not statistically significant difference between two groups.

Conclusions

The characteristics of electrocardiographic markers of sudden cardiac death (SCD) from the 12-lead electrocardiogram were significantly higher in the PPCM patients compared to the control group, particularly
the QRS duration, QTc, and T peak to T end. Their potential clinical significances for predicting SCD is needed to be investigated in larger sample and prospective studies.