THE RELATIONSHIP BETWEEN VENTRICULAR ARRHYTHMIAS AND ELECTROCARDIOGRAPHIC REPOLARIZATION PARAMETERS IN SUBJECTS WITH MITRAL VALVE PROLAPSE

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Abstract

Background: Little is known about the relationship between repolarization parameters of the surface electrocardiogram and the frequency of ventricular and supraventricular arrhythmias in patients with MVP. This study aimed to compare the incidence of ventricular and supraventricular arrhythmias in subjects with and without mitral valve prolapse (MVP) and to investigate whether there is an association between ventricular arrhythmias and repolarization parameters in patients with mitral valve prolapse. Methods: Forty-one subjects with MVP and 41 subjects with palpitation but without MVP (control group) were enrolled in this cross-sectional study. All subjects underwent 12 lead-electrocardiogram, transthoracic echocardiography, and 24-hour Holter monitoring. Results: The number of subjects experiencing PVCs, couplets, and NSVTs was significantly higher in the MVP group compared to the control group. Left ventricular end-systolic and end-diastolic diameter and left atrial diameter was also significantly higher in the MVP group than the control group. QRS width and Tpeak-Tend interval were also significantly higher in subjects with MVP than the controls. Correlation analysis revealed that the severity of Mitral regurgitation was positively correlated with the number of PVCs and couplets; while LA diameter was significantly correlated with the number of the PVCs and NSVTs. Conclusion: Subjects with MVP more frequently have ventricular arrhythmias including PVCs, couplets and NSVTs compared to subjects without MVP. LVESD, LVEDD, LA diameter, QRS width and Tpeak-Tend interval were increased in MVP subjects than those without MVP. The severity of the MR and LA diameter are associated with the frequency of the PVCs, couplets, or NSVTs.

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