

عنوان مقاله:

Assessment of functional and structural echocardiography parameters in patients with frequent premature ventricular contractions without structural heart disease

محل انتشار:

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خلاصه مقاله:

BACKGROUND: Premature ventricular contractions (PVCs) are early depolarizations of the myocardium which originate from the ventricle. PVCs have previously been considered a benign condition. The clinical significance of PVCs in patients without structural heart disease is controversial. **METHODS:** In this cross-sectional study, patients with a palpitation complaint who underwent electrocardiography (ECG) Holter recording for ۴۸ hours were analyzed. Patients with frequent PVCs (more than ten times in ۱ hour) were identified and enrolled in the study. ۲۶ patients were in the PVC group, and ۲۶ patients were in the control group without PVC. The identified patients underwent an echocardiographic examination with strain modality. **RESULTS:** There were ۱۵ women (۵۷.۷%) in the PVC group and ۱۷ women (۶۵.۴%) in the control group ($P = ۰.۵۷$). Two patients in the PVC group and three patients in the control group were hypertensive ($P > ۰.۹۹$). There was only one patient with diabetes in PVC and control group ($P > ۰.۹۹$). There were two smokers in the PVC group, whereas there was no smoker in the control group ($P = ۰.۴۹$). In comparison

between two groups, patients with frequent PVCs had significantly larger left ventricular end-diastolic volume index (LVEDVI) ($P = 0.048$) along with lower left ventricular ejection fraction (LVEF) ($P = 0.011$), lower (more positive) left ventricular global longitudinal strain (LVGLS) ($P = 0.001$), and lower peak systolic mitral annular velocity (S') ($P = 0.045$). The left atrial volume index (LAVI) was significantly larger in the PVC group ($P = 0.001$). In speckle tracking echocardiography (STE) parameters, global peak atrial longitudinal strain (PALS) ($P = 0.001$) and peak atrial contraction strain (PACS) ($P = 0.001$) were significantly lower and time to peak longitudinal strain (TPLS) ($P = 0.002$) was significantly higher in the PVC group. CONCLUSION: In this study, left atrial (LA) and left ventricular (LV) function and geometry were adversely affected by frequent PVCs. Early diagnosis of these effects is possible with echocardiography along with strain analysis. It can guide the timely treatment of PVC to avoid the harmful effects of frequent PVCs on the heart.

کلمات کلیدی:

Premature Ventricular Complexes, Left Atrial Function, Left Ventricular Function

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