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VENTRICULAR TACHYCARDIA AND FREQUENT PREMATURE VENTRICULAR COMPLEXES ABLATION INFLUENCE LEFT VENTRICULAR FUNCTION

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Frequent premature ventricular complexes (PVC) are related to reversible tachycardia-induced cardiomyopathy. Yet, the role of arrhythmia ablation on the left ventricular remodelling has not been fully recognized. The aim of this study was to assess the effect of catheter ablation and PVC burden in patients with and without structural heart disease (SHD) on left ventricular ejection fraction (LVEF). Transthoracic echocardiography was done before and six months after ablation in 109 consecutive patients (61 men, age 55±17 years). Sixty-five (59.6%) patients had underlying SHD. The catheter ablation performed with RF and stereotaxis catheters was successful in 93 (85.3%) patients. Baseline PVC burden was higher in SHD (22,267±12,934) compared to no SHD (15,546±7888), p=0.005. Nevertheless, patients with LVEF≤ 50% at baseline presented greater LVEF recovery (from 44% to 56%) than those with LVEF>50%. In both groups, the LVEF improved (p<0.001); however, no difference was observed between patients with SHD (5.7%±1.37%) and without (4.6%±0.96%) SHD; p=0.89. PVC burden was higher in patients with (24,350±2776 PVC/day) compared to those without (17,588±1970 PVC/day) improvement of LVEF. In multivariate regression analysis PVC burden > 20,000/day (but not age, p=0.95; gender, p=0.89; presence of SHD, p=0.53; QRS complex width of the treated PVC, p=0.21, LVEF before ablation, p=0.19; and site of origin, p=47) predicted improve¬ment in LVEF after successful catheter ablation (odds ratio: 3.53; 95% confidence interval: 1.15–10.75; p=0.023). Catheter ablation of frequent PVCs improves left ventricular function. Multivariate analysis predicts improvement of LVEF within six months after successful catheter ablation in patients with PVC burden exceeding 20,000/24 h.

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