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Radiofrequency ablation for PVC-induced cardiomy opathy complicating peripartum cardiomy opathy

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Introduction: Premature ventricular contraction (PVC)-induced cardiomyopathy is an increasingly recognized cause of reversible cardiomyopathy. Peripartum cardiomyopathy (PPCM) may be complicated by frequent PVCs. To the best of our knowledge, successful reversal of PVC-induced cardiomyopathy following radiofrequency ablation (RFA) in the setting of PPCM has not been previously reported.

Case: A 36-year-old woman developed progressive dyspnea and orthopnea after her second pregnancy. Six weeks after delivery, echocardiogram demonstrated severe left ventricular (LV) dilation with an LV end-diastolic diameter (LVEDD) of 6.9 cm and an LVEF of 25%. She was diagnosed with PPCM and treated medically with guideline-directed heart failure therapy. A wearable cardioverter-defibrillator was prescribed for primary prevention of sudden death. Tracings from the wearable cardioverter-defibrillator reviewed frequent PVC's. Nine months post-delivery, 24-hour Holter captured 27,422 PVCs, prompting initiation of amiodarone. Three months later, 24-hour Holter monitor captured 31,697 PVCs. Echocardiography showed LVEF had improved to 43% but LV dilatation persisted (LVEDD 6.3 cm). Amiodarone was discontinued and she was referred for RFA for symptomatic amiodarone-refractory PVCs.

Baseline rhythm in the electrophysiology lab was sinus with frequent PVCs of (LBBB morphology with superior axis). Electroanatomical mapping of the RV was performed. The earliest ventricular activation of the PVCs was localized at the 6:30 o'clock position on the tricuspid annulus. RFA at the site of a very early prepotential, 60 ms before the onset of QRS complex, resulted in elimination of the PVCs. Three months after RFA, 24-hour Holter detected only 168 PVCs. LVEF was 55% and LV size had normalized (LVEDD 5.1 cm).

Conclusion: Ventricular arrhythmias and frequent PVCs may occur in patients with PPCM, possibly due to LV dilatation and systolic dysfunction. This case illustrates the successful utilization of RFA to treat PVC-induced cardiomyopathy complicating PPCM.

Biography

Jackson Liang completed his D.O. degree at Michigan State University College of Osteopathic Medicine (2011). He is a third year internal medicine resident at Mayo Clinic in Rochester, USA. He is interested in cardiac electrophysiology.

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