Restoration of Impaired Cardiac Function in Patients with Dilated Cardiomyopathy after the Radiofrequency Catheter Ablation of Long-Standing Persistent Atrial Fibrillation with Adequate Ventricular Rate Control

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Tachycardia induced cardiomyopathy is a well-known form of reversible cardiac dysfunction; however, the effect of maintaining sinus rhythm by a radiofrequency catheter ablation (RFCA) in patients with impaired cardiac function and adequately rate-controlled atrial fibrillation (AF) is unclear. Six patients (54±9 years old, 5 men) with drug-resistant persistent AF (lasting 21±14 months) combined with dilated cardiomyopathy (DCM) had suffered from heart failure for more than one year in spite of an adequate ventricular rate control (<90 bpm) and intensive medications including angiotensin converting enzyme inhibitors, angiotensin receptor blockers, beta-blockers, diuretics, and an amiodarone. All patients underwent the RFCA of AF and were maintained in sinus rhythm during a mean follow-up period of 14±19 months. The left ventricular ejection fraction increased from 32±8 % to 60±8 %, the left atrial diameter decreased from 50±8 mm to 48±10 mm, and the BNP decreased from 302±166 pg/ml to 56±79 pg/ml at the end of the follow-up period. The RFCA of AF may provide a chance to restore an impaired cardiac function in patients who have already diagnosed as DCM with adequately rate-controlled persistent AF.

Keywords: persistent atrial fibrillation, catheter ablation, dilated cardiomyopathy