Impact of Preceded Pharmacological Cardioversion on Ablation Strategy of Persistent Atrial Fibrillation

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Purpose: This study was aimed to investigate the ablation strategy for persistent atrial fibrillation (PerAF) which pharmacological cardioversion (PC) was tried before catheter ablation (CA).

Methods: This retrospective study included consecutive 80 patients (63±9 years, 71 male) who underwent CA for PerAF (duration: 42±55 months). When sinus rhythm (SR) was maintained at the beginning of the procedure, extensive encircling pulmonary vein isolation (EEPVI), superior vena cava isolation (SVCI), and cavotricuspid isthmus block (CTIB) were done. If AF persisted after completion of EEPVI, atrial substrate ablation (ASA) was added until AF termination as its endpoint.

Results: Thirty-nine patients for which PC was attempted were divided into 18 patients (46%, Group A) restored to SR, and 21 patients (54%, Group B) PC was failed. CA was performed during AF in 7, 19 patients of Group A, B (39 vs. 90%, p=0.001). Among these 7 patients with Group A, AF was terminated during EEPVI in 5, ASA at left atrial septum in 2, then finally converted to SR either directly or via CTI-dependent atrial flutter in all 7 patients. In contrast with Group B, AF termination during CA was achieved in 11 included 8 patients requiring ASA. During follow up of 3.1±1.3 months, AF-free rate was 83% in Group A, and 76% in Group B (p=0.54). Conclusion: CA mainly by thoracic vein isolation brought favorable outcome in PerAF patients with successful PC.

Keywords: persistent atrial fibrillation, pharmacological cardioversion, catheter ablation