Incidence of supraventricular tachycardia after catheter ablation of atrial fibrillation

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Background: Prevalence of atrial fibrillation (AF) in patients with supraventricular tachycardia (SVT) is reported to be 5%. However, the prevalence of SVT in patients with AF is unknown. This study aimed to evaluate the prevalence of SVT in patients with AF.

Methods: Five hundred twenty-two patients (mean age 55.8±12.4 years, male 447 [86.4%], paroxysmal AF 337 [65.2%]) underwent a first catheter ablation session for AF in our institute from September 2008 to April 2018. After the ablation of AF, an electrophysiological study (EPS) was performed to induce SVT in all cases. Five patients with a history of cardiac surgery were excluded. The type of SVT and background characteristics were analyzed.

Results: SVT was induced in 27 cases (5.2%) (Atrioventricular nodal reentrant tachycardia [AVNRT] 13, Atrial tachycardia [AT] 12, atrioventricular reciprocating tachycardia [AVRT] 1, AVNRT/AVRT 1). The type of AVNRT was the slow-fast type in 7 cases and fast-slow type in 6. The AT origin was the right atrium in 6 cases, atrial septum in 4, and left atrium in 2. Additional ablation of SVT was performed in all cases and no SVT could be induced after the ablation. The background characteristics of the SVT and non-SVT groups were compared (SVT group vs. non-SVT group; age, 54.9±13.7 vs. 55.9±12.3, p=0.68; male, 24[88.9%] vs. 423[86.3%], p=0.70; paroxysmal AF, 22[81.4%] vs. 315[64.2%], p=0.07). However, there were no significant differences for all parameters.

Conclusion: The prevalence of SVT in our population was 5.2%. It would be difficult to predict the patients with SVT from the background characteristics. EPS might be indispensable in AF ablation.