The prevalence of concomitant coronary artery disease in patients going under catheter ablation for paroxysmal or persistent atrial fibrillation

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Introduction: Atrial fibrillation is one of the most commonly observed arrhythmias worldwide. Atrial fibrillation is also known to share some of its risk factors with coronary artery disease: age, hypertension, diabetes, and such. Although it is not uncommon to see patients having both atrial fibrillation and coronary artery disease in the clinical setting, very little is known about the prevalence of concomitant coronary artery disease in patients with atrial fibrillation. In this study, we investigated the prevalence of concomitant coronary artery disease among patients with atrial fibrillation who went under catheter ablation for paroxysmal or persistent atrial fibrillation.

Methods: In our facility, we performed a total of 300 cases of catheter ablations for paroxysmal or persistent atrial fibrillation between years 2017 and 2018, 227 cases of which were for paroxysmal atrial fibrillation, and 73 cases for persistent atrial fibrillation. The average age of these 300 cases was 63.6 years old (63.6±10.0, mean ± SD), and 72.3% of them were male. These 300 cases were routinely checked before the catheter ablation for coronary artery disease by performing either coronary CT angiogram or coronary angiography.

Result: Among the 300 cases, 11 patients (3.67%) either had a history of coronary artery revascularization or were found to have a coronary artery disease that required revascularization in addition to the catheter ablation. 1 case out of the 227 cases with paroxysmal atrial fibrillation had a history of myocardial infarction, and 8 cases out of those 227 cases either had a history of percutaneous coronary intervention or were found to have a coronary artery lesion that required revascularization. These 9 cases account for 3.96% of the 227 cases with paroxysmal atrial fibrillation. 1 case out of the 73 cases with persistent atrial fibrillation had a history of coronary bypass graft surgery, and another case had a history of percutaneous coronary intervention; these 2 cases account for 2.74% of the 73 cases.

Conclusion: These results suggest that a certain percentage of patients with indications for catheter ablation for atrial fibrillation have concomitant coronary artery disease, and are potential candidates for additional coronary artery revascularization. Therefore a routine check for coronary artery lesions before
catheter ablation for atrial fibrillation is useful.