Characteristics of Pericardial Effusion during Catheter Ablation

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Introduction: Pericardial effusion (PE) is a known complication of radiofrequency catheter ablation (CA). The aim of this study was to retrospectively investigate the characteristics of patients who developed PE during CA.

Methods: We reviewed 1363 consecutive patients who underwent CA, from January 2015 to June 2019 in our hospital.

Result: PE during CA occurred in 18 (1.3%) patients (median (1st-3rd IQR), 71 (65-77) year-old, 7 females). Body mass index was relatively high as 24 (20-27). Target arrhythmia for CA was; atrial fibrillation (AF) in 13 (72%), premature ventricular contraction in 2 (11%), ventricular tachycardia in 1 (6%), atrial flutter in 1 (6%), and atrioventricular reentrant tachycardia in 1 (6%). Of these patients, oral anticoagulant therapy was interrupted on the day of CA in 16 patients (89%) with history of AF or atrial flutter, and unfractionated heparin was administered during the procedure. Seventeen patients required pericardiocentesis, resulting in 300 (192.5-475) mL of drainage. Two required emergent surgical repairs, and 1 died due to aortic dissection. Blood gas analysis of the drained blood was venous origin in 47%. Considering the timing of PE and/or ablation sites, a diagnostic catheter in the right heart (right ventricle apex or the coronary sinus) was considered to be responsible for the injury in 47% of total events, and 54% of AF ablation.

Conclusion: PE caused by a diagnostic catheter is not uncommon, even in AF ablation.