

## Editorial



# What Does Atrial Fibrillation Mean in Patients With Cardiac Implantable Electronic Devices?

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► See the article “Risk of Atrial Fibrillation and Adverse Outcomes in Patients With Cardiac Implantable Electronic Devices” in volume 54 on page 13.

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Atrial fibrillation (AF) is a common sustained arrhythmia. The prevalence of AF is higher in patients with old age and structural heart disease.<sup>1,2)</sup> AF is associated with risk for ischemic stroke, heart failure, and mortality.<sup>1)</sup> As a result, socioeconomic cost for managing AF is increasing in aging societies.<sup>3)</sup> Recently, early detection and treatment of AF is emphasized.<sup>4)</sup> However, because AF is paroxysmal in many patients and AF causes no or only mild symptoms, AF is elusive in its early stage. Many methods for early detection of AF have been evaluated and used in real world. Patient-initiated methods includes pulse palpitation, oscillometric blood pressure cuff, and intermittent electrocardiogram (ECG) recording using smartphone.<sup>5)</sup> Long-term Holter monitoring, 1–2 week continuous ECG patches, and implantable cardiac monitors can be used in the hospital setting.<sup>6)</sup>

Patients with cardiac electronic implantable device (CIED) may be at high risk for development of AF. It is because there are high frequencies of old age and heart failure in patients with pacemaker, implantable cardioverter defibrillator (ICD) for primary prevention and cardiac resynchronization therapy (CRT) device.<sup>7)</sup> Using CIED, heart rhythm can be monitored although it is limited. However, AF detection is still challenging, because atrial high-rate episodes do not directly mean AF. Also, significance of AF is various according to AF duration or burden.<sup>8)</sup> Anticoagulant is recommended in patients with >24 hours of duration of AF detected by CIED.<sup>4,9)</sup>

Recently, Lee et al.<sup>10)</sup> performed and published an observational cohort study on incidence of AF and its adverse outcomes in patients with CIED using nationwide claim data. They revealed 1) the incidence of AF is higher in patients with ICD or CRT with heart failure than patients with pacemaker or ICD without heart failure; 2) old age and valvular heart disease are associated with development of AF; 3) development of AF increases risk for ischemic stroke, hospitalization for heart failure, and all-cause mortality. This study included the data in almost all South Korean patients with CIED and suggested that the significances of new development of AF in patients with CIED. The substantial number of patients in this study may be followed up on a regular basis by attending physicians. Surprisingly, anticoagulation rate is not high enough in these patients. Because this data were derived from the big data, some errors of diagnosis or time of diagnosis might be contained. The data on atrial high-rate episodes from CIED were not included. However, the authors suggested the meaningful

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results on development of AF in patients with CIED. The physicians should pay attention to atrial high-rate episodes in patients with CIED and make an effort to detect AF using long-term wearable ECG monitoring. When AF is detected in these patients, the physicians should actively manage AF, according to the current guidelines.

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