Atrial High-Rate Episodes, Subclinical Atrial Fibrillation and Short-Duration Clinical Atrial Fibrillation: Different Names for the Same Arrhythmia or a New Player On the Pitch?

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Keywords: Atrial Fibrillation, Atrial high-rate episodes, Subclinical atrial fibrillation, Anticoagulation

Atrial fibrillation (AF) is the most common sustained arrhythmia with important clinical comorbidities. Although clinically described by physicians during the 17th century, it was not properly delineated until James Mackenzie described the loss of the ‘a’ wave in the venous pulse, using the polygraph that he invented to demonstrate the form of the pulse wave, and Willem Einthoven published the first electrocardiogram (ECG) showing AF in 1906. From that moment, ECG recording has been key for AF diagnosis and subsequently for its treatment. But today, new technologies are opening our eyes to new points of view regarding the diagnosis and management of this old arrhythmia. Dual-chamber cardiac implantable electronic devices (pacemakers and defibrillators) can detect and report AF episodes as atrial high-rate episodes (AHRE). AHRE refers to device-detected atrial events, usually tachyarrhythmias, meeting programmed or other specified atrial high-rate criteria (usually >175-180 bpm). Moreover, these devices are capable of recording intracardiac electrograms during these episodes to confirm the diagnosis of subclinical AF (SCAF), excluding other causes of AHRE as noise or far-field detection, and even report the duration of the episodes. Therefore, SCAF refers to asymptomatic episodes of AF detected and confirmed by intracardiac electrograms and not previously detected by ECG or ambulatory monitoring. [1] There is no doubt that AHRE and SCAF are different names for the same arrhythmia, AF. Both AHRE and SCAF have been linked to an increased risk of stroke and systemic embolism, nevertheless this risk seems lower than when AF is recorded on an ECG. In this sense, patients’ embolic risk, defined by CHA2DS2-VASc score, and the duration of the episodes are important to guide the management of these patients. Current Guidelines recommend anticoagulation for those patients presenting with AHRE/SCAF lasting >24h or when history of stroke is present. [2] Therefore clear and evidence based recommendations do not currently exist for

Received 10 April 2020; revised 14 April 2020; accepted 16 April 2020
Available online 22 July 2020

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