

Three year incidence and duration of atrial fibrillation episodes among a large, real-world population of cryptogenic stroke patients with insertable cardiac monitors

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Background/Introduction: The primary goal of monitoring for atrial fibrillation (AF) after cryptogenic stroke (CS) is secondary stroke prevention. Therefore, long-term monitoring of CS patients with insertable cardiac monitors (ICMs) is likely important to ensure appropriate secondary stroke prevention therapy, regardless of when AF is detected after the index event. However, long-term data on the incidence and duration of AF from real-world populations are sparse.

Purpose: To investigate the long-term incidence and duration of AF episodes in real-world clinical practice among a large population of patients with ICMs placed for AF detection following CS.

Methods: We included patients from a large device manufacturer's database who received an ICM for the purpose of AF detection following CS and were monitored for up to 3 years. All detected AF episodes (≥ 2 minutes) were adjudicated. We quantified the AF detection rate for various episode duration thresholds using Kaplan-Meier survival estimates, analyzed the maximum duration of AF episodes, and measured the time to initial AF detection.

Results: A total of 1247 patients (65.3 ± 13.0 years, 53% male) were included and followed for 763 ± 362 days. AF episodes ($n=5456$) were detected in 257 patients, resulting in a median frequency of 5 episodes [IQR 2–19] per patient. At 3 years, the AF detection rate for episodes ≥ 2 minutes was 24.2%. The AF detection rates at 3 years for episodes ≥ 6 minutes, ≥ 30 minutes, and ≥ 1 hour were 22.4%, 20.6%, and 19.1%, respectively. The median duration of the longest detected AF episode was 4.4 [IQR 1.2–13.9] hours and the median time to AF detection was 129 [IQR 45–354] days.

Conclusion: AF episodes were detected via ICMs in approximately one-quarter of CS patients within 3 years of follow-up. More than 75% of patients with AF detected had episodes lasting ≥ 1 hour and half had episodes lasting ≥ 4 hours. Detection of the first AF episode typically occurred beyond the range of conventional ambulatory monitors. Long-term surveillance of CS patients is likely important given the appreciable incidence, frequency, and duration of these AF episodes.

3-year AF Detection Rates as a Function of Minimum Episode Duration

