radcliffe cardiology

# Title: EHRA 24: Risk of Stroke or Embolism and AF: ARTESiA Substudy
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# Date: 09/04/2024

## Dr William McIntyre

"I'm Bill McIntyre from Hamilton, Canada, where I work at McMaster University and the Population Health Research Institute. Today, I'm going to be talking about the ARTESiA substudy results that we're presenting here at EHRA 2024, focusing on the impact of device-detected atrial fibrillation, episode duration, and frequency.

### ARTESiA Trial Overview

The ARTESiA trial was a significant study, with the main results presented at the American Heart Association in November 2023. The primary finding was that for patients with device-detected atrial fibrillation, apixaban, as compared to aspirin, reduced the risk of the primary outcome of stroke or systemic embolism. However, it did increase the rate of major bleeding. The absolute baseline risk of stroke in this population was around 1%.

### Objective of the Substudy

Given the effectiveness of apixaban, it's crucial to identify subgroups of patients who might benefit more or less from the intervention. The goal of this substudy was to investigate the impact of episode duration and frequency of device-detected atrial fibrillation on stroke risk and treatment benefit.

### Methodology

The ARTESiA trial included around 4,000 patients with device-detected subclinical atrial fibrillation, identified by pacemakers, ICDs, or implantable monitors. Patients had episode durations between six minutes and 24 hours to qualify for the trial. The primary outcome was a composite of stroke or systemic embolism.

We categorized patients based on the frequency of their atrial fibrillation episodes in the six months prior to trial entry: zero episodes (but some in the more remote past), one to five episodes, or six or more episodes. We also classified episode durations into three groups: six minutes to one hour, one to six hours, and six to 24 hours. We analyzed the association of these factors with stroke risk and the treatment effect of apixaban.

**Results**

We found that the absolute risk of stroke was consistent across different episode durations, clustering around 1% per year. There was no significant association between the longest duration of subclinical atrial fibrillation and stroke risk, even after adjusting for treatment allocation and CHA2DS2-VASc score. Similarly, the treatment effect of apixaban did not vary with episode duration. An interesting finding was that 18% of patients did not have any subclinical atrial fibrillation in the six months immediately prior to enrollment but had episodes in the more remote past. This group had a lower absolute risk of stroke, about 0.5% per year, compared to those with more recent episodes. When comparing patients with one to five episodes versus those with six or more, there was no significant difference in stroke risk or the treatment effect of apixaban.

**Clinical Implications**

Current guidelines suggest that longer episode durations and higher CHA2DS2-VASc scores increase the likelihood of benefiting from oral anticoagulation. However, our findings challenge the emphasis on episode duration for subclinical atrial fibrillation. Our data align with previous studies, such as the ASSERT trial and a meta-analysis by Sagris et al., indicating that stroke risk does not significantly increase with episode durations between six minutes and 24 hours.

**Conclusion**

The key takeaway is that for patients with subclinical atrial fibrillation lasting between six minutes and 24 hours, the duration of the longest episode in the past six months

does not significantly impact stroke risk or the treatment benefit with apixaban. The presence of the arrhythmia itself should be considered a risk marker. Clinicians should focus on informed discussions about the risks and benefits of apixaban for stroke prevention, without overemphasizing episode duration. Further research will explore the impact of CHA2DS2-VASc scores on risk stratification, with results expected to be presented at the Heart Rhythm Meeting in May 2024."