



## Spotlight on Special Topics

### PREDICTING PAROXYSMAL ATRIAL FIBRILLATION IN CRYPTOGENIC STROKE PATIENTS FROM AN ELECTROCARDIOGRAM IN SINUS RHYTHM USING ARTIFICIAL INTELLIGENCE

Poster Contributions

Hall B4-5

Saturday, April 6, 2024, 12:45 p.m.-1:30 p.m.

Session Title: 1261: Innovation, Digital Health, and Technology 04

Abstract Category: 60. Spotlight on Special Topics: Innovation, Digital Health, and Technology

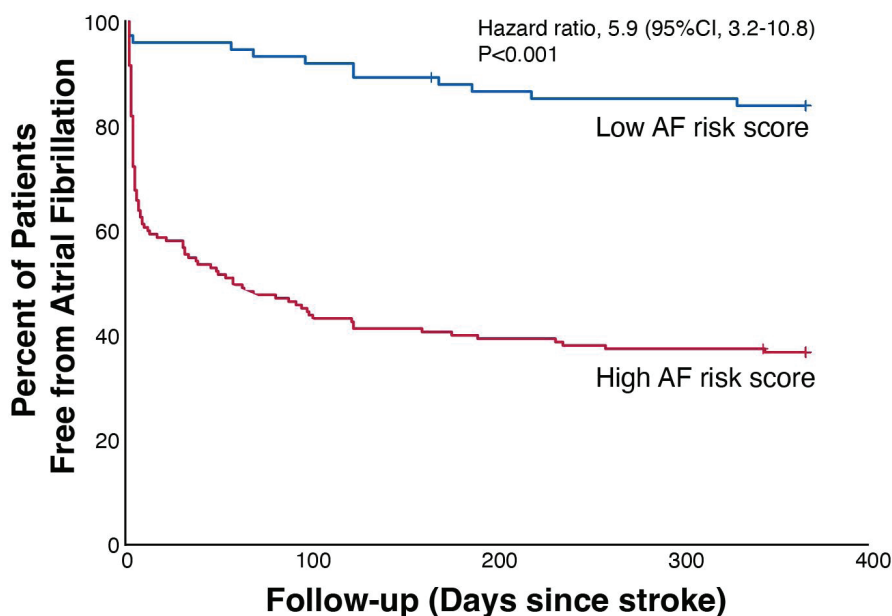
Presentation Number: 1261-120

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**Background:** Artificial intelligence (AI)-enabled ECG algorithms can predict underlying paroxysmal AF from ECGs recorded during sinus rhythm within a 30-day window. Their predictive value in cryptogenic stroke patients over a 1-year duration is unknown.

**Methods:** Cryptogenic stroke patients admitted to our center from January 2017 to 2023 were retrospectively analyzed. They were included if diagnosed with AF during hospitalization, on Holter or upon receiving an insertable cardiac monitor (ICM). The algorithm was employed to generate a score, predicting the potential presence of underlying AF based on the initial ECG recorded within the first 30 days post-stroke.

**Results:** A total of 230 patients (55% male,  $71 \pm 13$  years) were included. AF was detected in 47.8% at 1-year post-stroke using ECG, Holter or ICM. The algorithm-based AF risk score was low in 32.6% and high in 67.4% of patients, with AF detected in 16.0% and 63.2%, respectively. The algorithm had an AUROC of 0.83 (95% CI: 0.78-0.88), 89.1% sensitivity, 52.5% specificity, 70.0% accuracy, 63.2% PPV and 84.0% NPV. Patients with a high AF risk score had an increased risk of subsequent AF detection (HR 5.9, 95% CI: 3.2-10.8,  $p < 0.001$ ).



**Conclusion:** Our AI algorithm, trained to predict underlying AF within 30 days on 12-lead ECG, can identify underlying AF in cryptogenic stroke patients from an ECG in sinus rhythm within a 1-year time frame. Moreover, the algorithm appears to perform well in a care path involving other diagnostic modalities (e.g., ICM) to detect AF.