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Muscat, Sultanate of Oman



POSTER PRESENTATION

Evaluating the Clinical Utility and Cost-Effectiveness of AliveCor for Atrial Fibrillation Screening

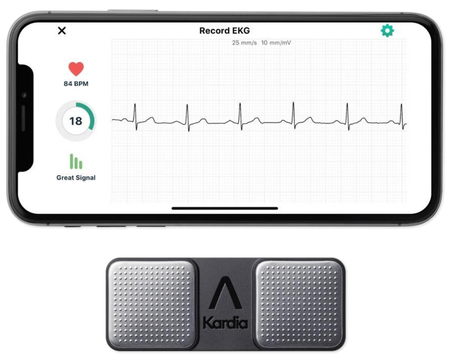
Mohammed Al Habsi[1], Nuha Al Habsi[2], Moza Al Adawi[3], Thurayia Al Khanjari[3], Adil Al Riyami[4], Mohamed Al Rawahi[4]

[1]College of Medicine, Sultan Qaboos University [2]Internal Medicine Program, Oman Medical Specialty Board [3]Physiology Department, Sultan Qaboos University Hospital, University Medical City [4]Internal Medicine Department (Cardiology), Sultan Qaboos University Hospital, University Medical City

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INTRODUCTION

- Atrial fibrillation (AF) is the most common sustained arrhythmia and a major, often silent, cause of cardioembolic stroke.
- After stroke or TIA, paroxysmal AF is easily missed by short-term Holter monitoring — yet detecting it changes management to anticoagulation.
- Smartphone ECG devices such as AliveCor KardiaMobile let patients record ECGs at home, with machine-learning rhythm interpretation.
- Their real-world feasibility, adherence and yield in an Omani post-stroke population are unknown.



AliveCor KardiaMobile 6L with smartphone app

AIM

To evaluate the feasibility, adherence and diagnostic yield of 4-week home AliveCor monitoring for detecting AF after stroke/TIA with a negative Holter.

METHODS

1. **Design:** Prospective study, Mar 2022 – Aug 2024
2. **Population:** Prior stroke or TIA with a negative Holter
3. **Intervention:** AliveCor mobile ECG device for 4 weeks
4. **Protocol:** ECG twice daily + extra recordings with symptoms
5. **Analysis:** Recordings, adherence and rhythm findings

RESULTS

64 patients recruited

14 did not complete

50 completed the study (78%)

52 yrs mean age

58% male

1,290 ECGs recorded

29 ECGs per patient

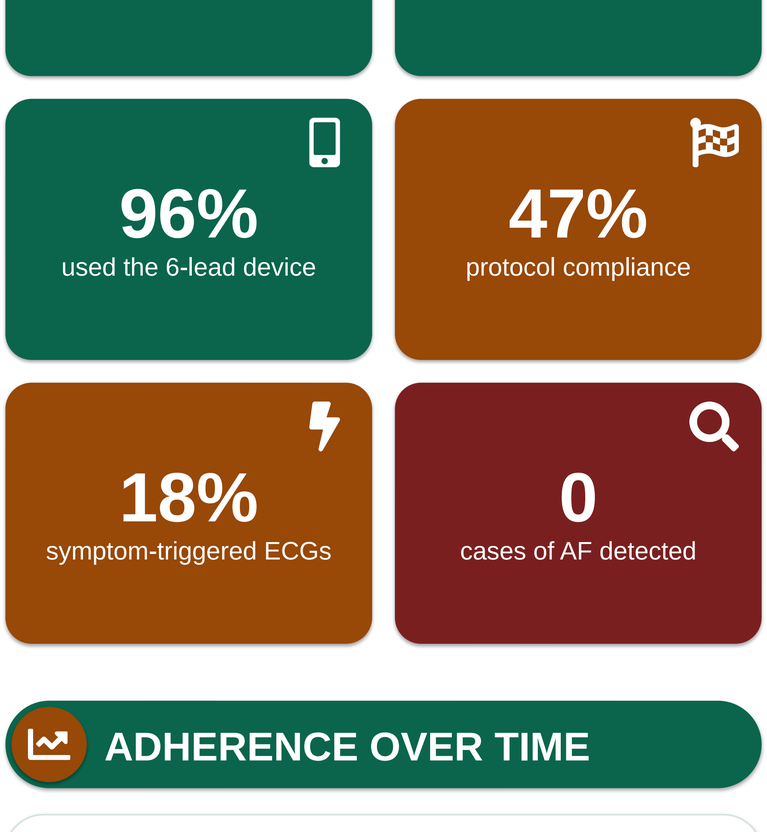
96% used the 6-lead device

47% protocol compliance

18% symptom-triggered ECGs

0 cases of AF detected

ADHERENCE OVER TIME



▼ **41%** drop in weekly recordings, week 1 → 4

RHYTHM REVIEW PATHWAY

Device AI — automatic rhythm label on every ECG

Technologist — reviewed all recordings

Cardiologist — reviewed the few inconclusive tracings

Outcome — all confirmed sinus rhythm — no AF

KEY MESSAGES

- ✔Home smartphone ECG monitoring was practical and well accepted after stroke/TIA.
- ✔Device AI labelling with technologist review enabled efficient remote rhythm triage.
- ✔Adherence declined over 4 weeks — reminders or shorter, targeted protocols may help.
- ✔Larger studies with longer monitoring are needed to define AF yield after a negative Holter.

CONCLUSION

AliveCor is a feasible and cost-effective alternative for ECG monitoring in community settings, potentially reducing reliance on repeated 12-lead ECGs for arrhythmia detection.

REFERENCES

1 Bray JJH, et al. Single-lead ECGs (AliveCor) are a feasible, cost-effective and safer alternative to 12-lead ECGs in community diagnosis and monitoring of atrial fibrillation. BMJ Open Qual. 2021;10(1):e001270.

2 Himmelreich JCL, et al. Diagnostic accuracy of a smartphone-operated, single-lead electrocardiography device for detection of rhythm and conduction abnormalities in primary care. Ann Fam Med. 2019;17(5):403-411.