00543 Use of a Novel Heart Rhythm Monitoring Device (Spyder) for Atrial Fibrillation Detection in Post-stroke Patients: South East Asian Cohort

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Aims: Spyder device is a cable-free, external electrocardiogram (ECG) monitoring device that is attached to left side of the chest using adhesive electrodes. Encrypted ECG data are transmitted continuously to a secure cloud server via smartphone. We assessed feasibility and automated atrial fibrillation (AF) detection algorithm of this device in post-stroke patients.

Methodology: This is a prospective, single center cohort study carried out from August 2015 to June 2018. A total of 95 patients with Transient Ischemic Attack or cryptogenic stroke without known AF wore the Spyder device for 4 weeks to detect paroxysmal AF (PAF).

Result: Among all the patients, 85% of them was male, with mean age of 57 ± 9 years. There were 69 (72.6%) patients completed the monitoring for at least 2 weeks. Patient wore the device for an average of 14 ± 4 hours daily, with mean of 21 ± 10.4 days. Skin irritation (45%, n = 43) contributed most to the poor compliance, followed by inconvenient and troublesome (12%, n = 11), difficulty using the device (2%, n = 2) and caregiver issue (2%, n = 2).

PAF was detected in 4 (4.2 %) patients. The greatest number of AF episodes detected in a single patient was 7 episodes; longest duration was 15 hours 6 minutes.

Mean number of false positive AF episodes per patient was 56 ± 114. Most of them were due to artifacts (56 %), other causes were supraventricular ectopics (SVE) (23 %), SVE run (20 %) and premature ventricular ectopics (1 %).

Conclusion: It was feasible to use Spyder device in post-stroke patients to screen for PAF who would otherwise not be picked up by conventional Holter monitor, despite the poor compliance (39%) due to skin irritation. The automated algorithm was sensitive though the specificity was hampered by oversensing and undersensing.