



EMBARGOED UNTIL 20th NOVEMBER 2022 1730HRS SGT

Collective Intelligence (CI) versus Artificial Intelligence (AI) in Arrhythmia Detection

Context:

Telemetry and Holter recorders have been the conventional electrocardiographic (ECG) monitoring devices prescribed by cardiologists over the last five decades to detect arrhythmias. Since the 1990s, the advancement of wearable technology has resulted in the proliferation of various ECG monitoring devices marketed commercially. Both AI and CI have been separately employed to interpret the tracings obtained from the diverse range of ECG monitoring devices.

Summary:

Dr Yoo-Ri Kim presented a number of studies related to both AI and CI in the interpretation of ECG monitoring devices. For example, AI algorithms integrated into a variety of wearables have demonstrated a sensitivity and specificity exceeding 90% in comparison to conventional ECG monitoring devices in detecting atrial fibrillation. Even in conventional devices such as implantable loop recorders, an AI algorithm has been shown to reduce the volume of false positives by nearly 80%. CI, on the other hand, entails pooling opinions from a large group of individuals rather than relying on computerised algorithms. Such CI systems have allowed for a shorter time to an appropriate interpretation, with similar outcomes to that from conventional electrophysiologist referrals.

Message:

There is a progressive trend towards remove ECG monitoring using wearables in the digital health era, away from conventional monitoring devices. It is expected that more arrhythmias will be detected with increasing use of monitoring; appropriate interpretation is the key. Both AI and CI have a role in this respect.

Session details:

Oral presentation – Symposium 42: Managing Cardiovascular Implantable Electronic Device Alerts:
Sunday 20th November 2022 4.00-5.10pm SGT

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