Initial clinical experience with new technology: ePatch extended Holter monitoring

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Introduction: Holter monitor electrocardiography is used to detect potential cardiac arrhythmias such as atrial fibrillation (AF). However, conventional ECG monitoring, data analysis and reporting methods can be labor-intensive and inefficient, leading to high upfront costs and long turnaround times. At the same time, traditional Holter devices can be cumbersome to wear, while inconvenient processes may reduce patient compliance and satisfaction – which impacts diagnostic yield. This new device (ePatch®) is a simple patch application, enrollment and activation with no battery charging needed and no cable attachments (Figure 1). Up to 14 days of continuous ECG recording. Wearable in shower, during exercise and while sleeping. Single-channel, up to 14 days. Two-channel, up to 5 days

Purpose: Our goal is to evaluate the quality and diagnostic efficacy of ePatch® in different clinical settings.

Methods: Prospective study of patients with ePatch® placed in our center requested for study of undocumented palpitations, syncope or cryptogenic stroke. Clinical variables, diagnostic accuracy, and time to diagnostic event are analyzed.

Results: We enrolled the first 57 patients, of whom 27 (50%) were women, with a mean age of 67.8 years (range 27 to 89). The most common indication was undocumented palpitations (35.1%) and cryptogenic stroke (35.1%), followed by syncope (29.6%). All the patients had correct compliance, tolerance and the ECG monitored was of good quality. A conclusive diagnosis: (symptomatic sustained tachyarrhythmia, atrial-ventricular block with bradyarrhythmia, significant pauses or AF) was obtained in 5 patients (8.7% of the total). The average event time since ePatch registration started was 2.4 days (range 1 to 5 days).

Conclusions: The ePatch® is a new extended Holter device offering a simple, complete and efficient ECG monitoring system. This new technology is safe and has numerous advantages: spend less time on logistics and device handling, prepare your patients efficiently, eliminate the need for additional consumables and constant battery replacement. The ECG monitor of our study is of 5 days, but it can be used for up to 14 days. It is designed to address the challenges of traditional Holter monitoring.