



Home Use PCA 500 12-lead ECG

for Arrhythmia Localization Prior to Ablation

In many patients, radiofrequency ablation is the chosen treatment for ventricular tachycardia (VT). In order to localize the origin of VT, cardiologists typically attempt to induce VT while monitoring the patient's heart with electrocardiogram (ECG) prior to ablation. However, in some patients VT cannot be induced, preventing the physician from identifying the origin. In these cases, when VT or the premature ventricular contractions (PVC) that lead to VT has not yet been documented on a 12-lead ECG, there is a much higher chance of a failed ablation. As data obtained from 1-lead and 6-lead ECG home monitors do not provide enough anatomical data to localize the PVC and conventional 12-lead ECGs were not available for patients to use by themselves, getting the needed information for localization can be especially challenging.

The PCA 500 Platform by QT Medical is a streamlined 12-lead ECG solution that allows patients to easily complete a 12-lead ECG in the comfort of their home, providing physicians with the data they need. In two patients, both with non-inducible VT and multiple failed ablations, PCA 500 was prescribed and 12-lead ECG recordings were collected, which enabled their cardiologists to localize the origin of their arrhythmia and use this knowledge to perform a successful ablation.

Two electrophysiologists, Timothy Yeh, MD, and Charles Swerdlow, MD, FACC, FAHA, FHRS, decided to use QT Medical's PCA 500 on their patients to record their arrhythmias at home. The patients were a 78-year-old male (Patient A) and a 62-year-old male (Patient B). Both patients were diagnosed with VT that persisted for six and thirteen years, respectively. Patient A had three failed ablations prior to the use of PCA 500, while Patient B had six failed ablations prior to use of the device. In all prior ablations for both patients, the arrhythmia could not be induced, leading to unsuccessful procedures. Both patients suffered from palpitations multiple times a day. In an attempt to gain the needed data to localize the PVC, Patient A used PCA 500 at home intermittently for one month prior to his fourth ablation and Patient B used PCA 500 at home intermittently for one week prior to his seventh ablation.

Both of the patients' physicians, Dr. Yeh and Dr. Swerdlow, used the 12-lead ECG data provided from PCA 500 to successfully localize the patients' PVC prior to their final ablation. Dr. Swerdlow stated that he was able to use the data collected to perform a successful ablation on Patient B, and that PCA 500 provided him with much more useful data than any other at home ECG monitors. Dr. Yeh stated that the data pinpointed the origin of the PVC. He shared this data with another electrophysiologist, who then performed fourth ablation with success. Both electrophysiologists stated that without the use of PCA 500, the final ablations for both patients may not have been successful like previous attempts due to lack of the needed data.