ACC.12
61st Annual Scientific Session & Expo
ACC-i2 with TCT innovation in intervention

E726
JACC March 27, 2012
Volume 59, Issue 13

Arrhythmias

IPHONE RHYTHM STRIP--THE IMPLICATIONS OF WIRELESS AND UBIQUITOUS HEART RATE MONITORING

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Monday, March 26, 2012, 11:00 a.m.-Noon

Session Title: Arrhythmias: Novel Observations for Patients with Atrial Arrhythmias
Abstract Category: 20. Arrhythmias: Other
Presentation Number: 1247-575

Authors: *Leslie A. Saxon, Alexandra Smith, Sona Doshi, Jessica Dinsdale, Dave Albert, University of Southern California, Los Angeles, CA, USA*

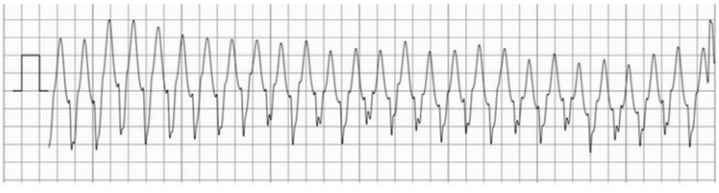
Background: Wireless technologies enable transmission of high quality ECG recordings without the need for leads. A device incorporating electrodes into an Apple iPhone case allows for wireless recording of 30-second rhythm strips (LEAD I) to the cloud (AliveCor, Okla. City, OK). ECGs can be downloaded for immediate interpretation using any browser.

Methods: iPhone-owning attendees of a Body Computing Conference at USC participated in an 8-week study to determine how they utilize the device.

Results: A total of 54 participants (43± 11 yrs, 77% male, 15% physicians, 61% business, 13% media/entertainment, 11% engineers) transmitted 36± 53 30-second recordings weekly (range 3-298) for 8 weeks. Without training, subjects used the case to record ECG's on themselves and others (61%). Transmission interpretation was normal sinus rhythm (68%); sinus brady or tachy (16%); extra atrial or ventricular systoles (2%); QRS delay (1%); and noise (13%). Symptomatic ventricular tachycardia and asymptomatic ST segment depression were detected in 2 participants, the latter in Mumbai, India (Figure 1 A,B).

Conclusion: Anytime ECG monitoring, as an adjunct to a smartphone is intuitive and allows users to learn about and characterize their heart rates & rhythms. It provides global identification of arrhythmias at any time. The implications of this technology for improving public awareness of health metrics and for the early diagnosis of arrhythmias are enormous.

Figure 1
A



B