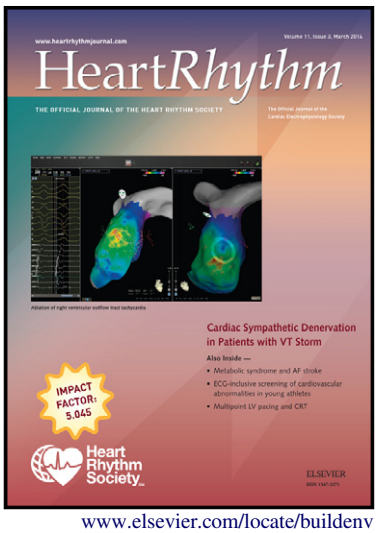

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The "QT Clock" to Improve Detection of QT Prolongation in Long QT Syndrome Patients

Short title: QT Clock to Detect QT Prolongation

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No conflicts of interest.

Abstract

Background: The QT interval is a risk marker for cardiac events such as TdP. However, QT measurements obtained from a 12-lead ECG during clinic hours may not capture the full extent of a patient's daily QT range.

Objective: We evaluated the utility of 24-hour Holter ECG recording in patients with long QT syndrome to identify dynamic changes in the heart-rate corrected QT interval, and we investigated methods of visualizing the resulting data sets.

Methods: Beat-to-beat QTc (Bazett) intervals were automatically measured across 24-hour Holters from 202 LQT1, 89 LQT2, 14 LQT3 genotyped patients and a reference group of 200 healthy individuals. We measured the percentage of beats with QTc greater than the

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