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Indian Pacing and Electrophysiology Journal

journal homepage: www.elsevier.com/locate/IPEJ

Modified Moving Average T-wave alternans cutpoints



Dear Dr. Selvaraj:

I read with interest your recent article, "Sudden death and its predictors in myocardial infarction survivors in an Indian population," which has been published online and will appear shortly in the *JOURNAL* [1].

You reported that T-wave alternans (TWA) testing by the spectral method did not show an association with sudden cardiac death among myocardial infarction survivors in your study. This finding provides important insights. Then, it was stated that an alternative TWA testing method, the Modified Moving Average (MMA) approach (GE Healthcare, Milwaukee WI, USA), lacks "uniform threshold to define abnormal values." I respectfully wish to draw your attention to the fact that MMA cutpoints for abnormality were defined in the TWA consensus guideline published in *Journal of the American College of Cardiology* by eleven international experts [2]. Specifically, MMA-based TWA levels ≥ 47 μV indicate high levels of risk, or abnormality, and TWA levels ≥ 60 μV indicate severe abnormality. Moreover, the MMA-TWA approach has been found to stratify risk for sudden cardiac death and cardiovascular mortality in several populations including the general public [3].

There are additional applications for which TWA testing is suitable, including monitoring the efficacy of antiarrhythmic medications and therapies [3]. In the ANTHEM-HF study (NCT01823887, registered March 4, 2013), which enrolled an Indian cohort of patients with heart failure, MMA-based TWA identified patients' improvements in cardiac status during vagus nerve stimulation [4,5].

It is important to recognize that in the United States, TWA analysis with the MMA method is FDA-cleared and is reimbursed by the Center for Medicare and Medicaid Services for use in patients at risk for arrhythmia. Thus, it has fulfilled important criteria for clinical utility.

In the interest of full disclosure, I want to make it known that I am one of the inventors of the MMA method for TWA analysis. The

patent was assigned to my medical center and licensed to GE Healthcare. I currently receive no income from sales of MMA-based TWA software.

References

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Richard L. Verrier
 Harvard Medical School, Beth Israel Deaconess Medical Center,
 Division of Cardiovascular Medicine, 99 Brookline Avenue, RN-301,
 Boston, MA, USA
 E-mail address: rverrier@bidmc.harvard.edu.

8 January 2021
 Available online 24 January 2021