

Recurrent takotsubo syndrome with long QTc and *torsade de pointes*: Can cellular phone-based acquisition/transmission of electrocardiogram be of value?



John E. Madias ^{a,b,*}

^a Icahn School of Medicine at Mount Sinai, New York, NY

^b Division of Cardiology, Elmhurst Hospital Center, Elmhurst, NY

^{a,b}USA

To the Editor,

I very much enjoyed reading the contribution by Ahmed et al. [1], published in the January 2017 issue of this journal, about the well-documented case of a 48 year-old woman with recurrent takotsubo syndrome (TTS), long QTc interval, repeated attacks of *torsade de pointes* (TdP), and ventricular fibrillation, who eventually had a cardioverter defibrillator implanted. In addition, the patient had a left ventricular thrombus, for which she received anticoagulation therapy. The present case provides many points needing contemplation, and this commentary is addressed to the kind consideration of the authors:

- (1) Prolonged QTc along with its consequences is encountered in TTS [2], and our approach should get systematized regarding the indications of cardioverter defibrillator implantation (prevalence of palpitations, recurrence of prolongation of QTc, TdP, ventricular fibrillation, and sudden death), and long-term follow-up

of patients with TdP and ventricular fibrillation during the acute TTS course, preferably in the setting of national/international TTS registries (e.g., The International Takotsubo Registry, a consortium of 26 centers in Europe and the United States; www.takotsubo-registry.com [3]).

- (2) This author has been influenced by women, contacting him from various parts of the USA, with recurrent complaints of short-lived chest pain at rest and episodes of dyspnea following an index episode of TTS, prompting thoughts that there must be mild atypical forms of TTS [4] and even a chronic form of TTS [5].
- (3) The authors state that “the apical portions of the LV have the highest concentration of sympathetic innervations found in the heart” [1], but the opposite is true, i.e., the base of the heart is more densely innervated than the apex [6,7]; however, the authors are correct stating that an “increased beta-2 (adrenergic receptors) concentration gradient” exists “from the apex to the base” [1].
- (4) The authors referred to “serial ECGs for 3 consecutive days displayed marked repolarization abnormalities with fluctuating prolonged QT intervals that failed to normalize” [1] in their patient, but did not provide information as to the time course of this prolonged QTc interval at follow-up.

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* Corresponding author at: Division of Cardiology, Elmhurst Hospital Center, 79-01 Broadway, Elmhurst, NY 11373, USA.

E-mail address: madiasj@nychhc.org



P.O. Box 2925 Riyadh – 11461KSA
Tel: +966 1 2520088 ext 40151
Fax: +966 1 2520718
Email: sha@sha.org.sa
URL: www.sha.org.sa



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- (5) One wonders whether “smart phone”-based technology [8] can be of value at long-term follow-up of patients after a TTS episode, for evaluation of the natural course of prolonged QTc intervals and for gaining insight into the lingering transient bouts of resting chest pains and dyspnea in patients who have suffered an index episode of TTS.

Conflict of interest

There are no conflicts of interest to disclose.

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