

Letter to the Editor

Some thoughts about recurrent Takotsubo syndrome attacks in a child with seizures

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To the Editor

I have some thoughts about the report by Srivastava et al,¹ published online ahead of print on 17 August, 2015, in the *Journal*, about a 14-year-old boy who suffered two Takotsubo syndrome attacks 6 months apart, triggered by status epilepticus. Regarding the possible pathophysiology of Takotsubo syndrome, the authors refer to an “exaggerated sympathetic nervous system response to catecholamines”, but it is more appropriate to refer to an exaggerated response of the cardiomyocytes to a hyperactive autonomic sympathetic nervous system and/or excessive release of catecholamines. It is surprising that a third episode of Takotsubo syndrome attack did not occur in the setting of a third episode of status epilepticus, and it is conceivable that the treatment with metoprolol has prevented a third Takotsubo syndrome attack recurrence, although the bulk of the literature suggests that β -blockers, at least in adults, have not prevented the recurrence of Takotsubo syndrome, thus far.² There is previous literature suggesting that in the course of recurrent Takotsubo syndrome attacks, new areas of the myocardium are involved, with some “protection” noted for the development of myocardial wall motion abnormalities in areas previously involved with Takotsubo syndrome, although the mechanism of this phenomenon is not known;³ accordingly, one may hypothesise that the two previous episodes of Takotsubo syndrome attacks have provided “protection” for a third Takotsubo syndrome attack recurrence, via this observed phenomenon by itself, or in conjunction with the treatment with metoprolol. This patient had electrocardiogram T-wave inversions during the the second episode of Takotsubo syndrome attack, also ST-segment elevations have often been seen earlier in the clinical course, and transient attenuation of the amplitude of the QRS complexes have been recently reported.⁴ As echocardiography cannot be applied in the ambulatory setting serially for the monitoring of patients with recurrent episodes of status epilepticus, or

milder episodes of seizures, which potentially could be followed by subclinical episodes of Takotsubo syndrome, it has been recently suggested that smart phone-based electrocardiogram technology may be considered to evaluate for the emergence and evolution of electrocardiogram hallmarks of underlying mild forms of Takotsubo syndrome.⁵

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Conflicts of Interest

None.

John E. Madias

Professor of Medicine (Cardiology)

Icahn School of Medicine at Mount Sinai, New York

*The Division of Cardiology, Elmhurst Hospital Center
Elmhurst, New York, United States of America*

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Correspondence to: J. E. Madias, MD, Division of Cardiology, Elmhurst Hospital Center, 79-01 Broadway, Elmhurst, NY 11373, United States of America. Tel: 718 334 5005; Fax: 718 334 5990; E-mail: madiasj@nychhc.org