“Dobutamine Stress Testing”-Triggered Mid-Ventricular Takotsubo Syndrome

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Dear Editor,

I read with interest the article by Chandraprakasam et al. published ahead of print on May 23, 2015 in the Journal, about a 48 year-old woman, who suffered an episode of midventricular Takotsubo syndrome (TTS), in the setting of a dobutamine stress testing (DST) carried out for evaluation of an intermittent chest pain, and from which she had an excellent recovery (1). The authors stated that the patient had “serial electrocardiograms (ECG) that were unremarkable”, and that the “stress ECG demonstrated sinus rhythm with transient left anterior fascicular block (LAFB) and run of ventricular bigeminy, which resolved after sublingual nitroglycerin and discontinuation of dobutamine infusion” (1). It has been recently reported that the ECG of patients with TTS reveals transient attenuation of the voltage amplitude of the QRS complexes (ATTQRS), which has been attributed to myocardial edema (ME), an attribute of TTS, detected by cardiac magnetic resonance imaging (cMRI) (2). Indeed the transient T-wave inversions and QTc interval prolongation has also been attributed to an apicobasal ME gradient in patients with TTS, of mostly of the apical “ballooning” type (3). Did the authors detect any ATTQRS in the ECGs of their patient, recorded after the DST and during hospitalization, in comparison with the admission ECGs? Such ATTQRS has been found to be ECG lead-specific, and a patient with mid-ventricular TTS has been reported with ATTQRS involving leads I and aVL, presumably leads more sensitive for detecting the mid-ventricular ME (4). Although there was no cMRI carried out in the present patient, she had classic mid-ventricular TTS, and thus it would be of interest to evaluate leads I and aVL, in particular. A plausible interference when ATTQRS is evaluated is the emergence of LAFB, which would magnify the voltage amplitude of leads I and aVL, thus mitigating the effect of ATTQRS attributed to ME. However in the present patient, LAFB was only transiently present (1).

References