



## LETTERS TO THE EDITOR

### Electrocardiograms in a diabetic patient with takotsubo syndrome after heart surgery for atrial myxoma



### Electrocardiogramas en un paciente diabético con síndrome de tako-tsubo tras cirugía cardíaca para mixoma auricular

Dear Editor,

I read, through “Google translate”, the report by García-Delgado et al.,<sup>1</sup> published on line ahead of print, on September 17, 2016 in the *Journal*, about the 68 year-old woman with atrial myxoma, for which she underwent surgery, and who suffered takotsubo syndrome (TTS) in the post-operative period, complicated by cardiogenic shock non-responding to vasoactive drugs, which required veno-arterial extracorporeal membrane oxygenation support. It has been recently reported that patients with TTS have a low prevalence of diabetes mellitus (DM),<sup>2</sup> but this does not imply that all patients with DM are “protected” from developing TTS. The present patient had noninsulin-dependent DM, and it would be of interest to know whether her DM was of long duration and whether she had DM-induced peripheral neuropathy, to which the “protective” influence on TTS has been attributed.<sup>2</sup> Also the present patient was admitted with atrial fibrillation, underwent surgery for atrial myxoma, had hypoxemia post-operatively, all factors, which will be expected to “overwhelm” the hypothetical “protective” effect for the emergence of TTS exerted by DM.<sup>2</sup>

The electrocardiogram (ECG) A of Figure 2 of the article,<sup>1</sup> reveals attenuation of the amplitude of the QRS complexes (attQRS) of ECG A in comparison with the ECG of Figure B, which could be either because of TTS, in keeping with a recent report,<sup>3</sup> or due to the postoperative volume overload, both of which cause attQRS. The attQRS in TTS is attributed to the associated myocardial edema,<sup>3</sup> and the attQRS in patients with cardiogenic shock or postoperative state is attributed to the low electrical impedance of the

passive body volume conductor, engendered by a high body edematous state.<sup>4</sup> Accordingly, it will be of interest to compare all the ECGs obtained in this patient from her admission to her discharge.

### Conflicts of interest

None.

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### References

1. García-Delgado M, García-Huertas D, Navarrete-Sánchez I, Olivencia-Peña L, Garrido JM. Extracorporeal membrane oxygenation support for Takotsubo syndrome and long QT after cardiac surgery. *Med Intensiva*. 2016, pii: S0210-5691(16)30152-8. doi: 10.1016/j.medin.2016.07.007. [Epub ahead of print].
2. Madias JE. Low prevalence of diabetes mellitus in patients with Takotsubo syndrome: a plausible ‘protective’ effect with pathophysiologic connotations. *Eur Heart J Acute Cardiovasc Care*. 2016;5:164–70.
3. Madias JE. Transient attenuation of the amplitude of the QRS complexes in the diagnosis of Takotsubo syndrome. *Eur Heart J Acute Cardiovasc Care*. 2014;3:28–36.
4. Madias JE, Bazaz R, Agarwal H, Win M, Medepalli L. Anasarca-mediated attenuation of the amplitude of electrocardiogram complexes: a description of a heretofore unrecognized phenomenon. *J Am Coll Cardiol*. 2001;38:756–64.

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