

A Comparison of Pheochromocytoma and Takotsubo Syndrome

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To the Editor:

In the interesting contribution by Choi et al.¹⁾ published in the March 2014 issue of the Journal, the authors compare 20 patients with pheochromocytoma (PHEO), a condition with a chronic catecholamine excess, with 20 patients with takotsubo syndrome (TTS), an affliction with acute catecholamine excess. This is a fascinating undertaking. A prolonged QTc was prevalent in both PHEO and TTS, and left ventricular hypertrophy (LVH) and relative wall thickness was more prominent in PHEO than TTS.

I would be interested in the authors' response regarding three issues: 1) one wonders whether calculated LVH and left ventricular mass index (LVMI) in patients with TTS is underestimated, given that such patients often develop apical hypertrophy due to myocardial edema, as assessed by echocardiography and cardiac magnetic resonance imaging, something that was not taken into account in the way they calculated LVMI, 2) whether there were differences in the electrocardiogram (ECG) amplitude of the QRS complexes between the patients with PHEO and TTS, either in the admission ECG, or the ECGs after admission, considering a new in-

sight that was just published,²⁾ about the attenuation of the amplitude of the QRS complexes in patients with TTS, and 3) I do not understand the authors' reasoning that "although our results showed no significant association between plasma norepinephrine level and LVMI, the significant positive correlation of urine epinephrine and norepinephrine levels with LVMI suggests that the local delivery of catecholamines to receptors may be more important than their passage through the circulation to induce LVH," considering that both serum and urine levels of catecholamines refer to what is being circulated and eventually eliminated in the urine, and not the catecholamine effects exerted on the receptors.

References

1. Choi SY, Cho KI, Han YJ, et al. Impact of pheochromocytoma on left ventricular hypertrophy and QTc prolongation: comparison with Takotsubo cardiomyopathy. *Korean Circ J* 2014;44:89-96.
2. 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.

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